

A  
GENERAL COLLECTION  
OF THE  
BEST AND MOST INTERESTING  
VOYAGES AND TRAVELS  
IN ALL PARTS OF THE WORLD;  
MANY OF WHICH ARE NOW FIRST TRANSLATED INTO ENGLISH.  
*DIGESTED ON A NEW PLAN.*

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BY JOHN PINKERTON,  
AUTHOR OF MODERN GEOGRAPHY, &c. &c.

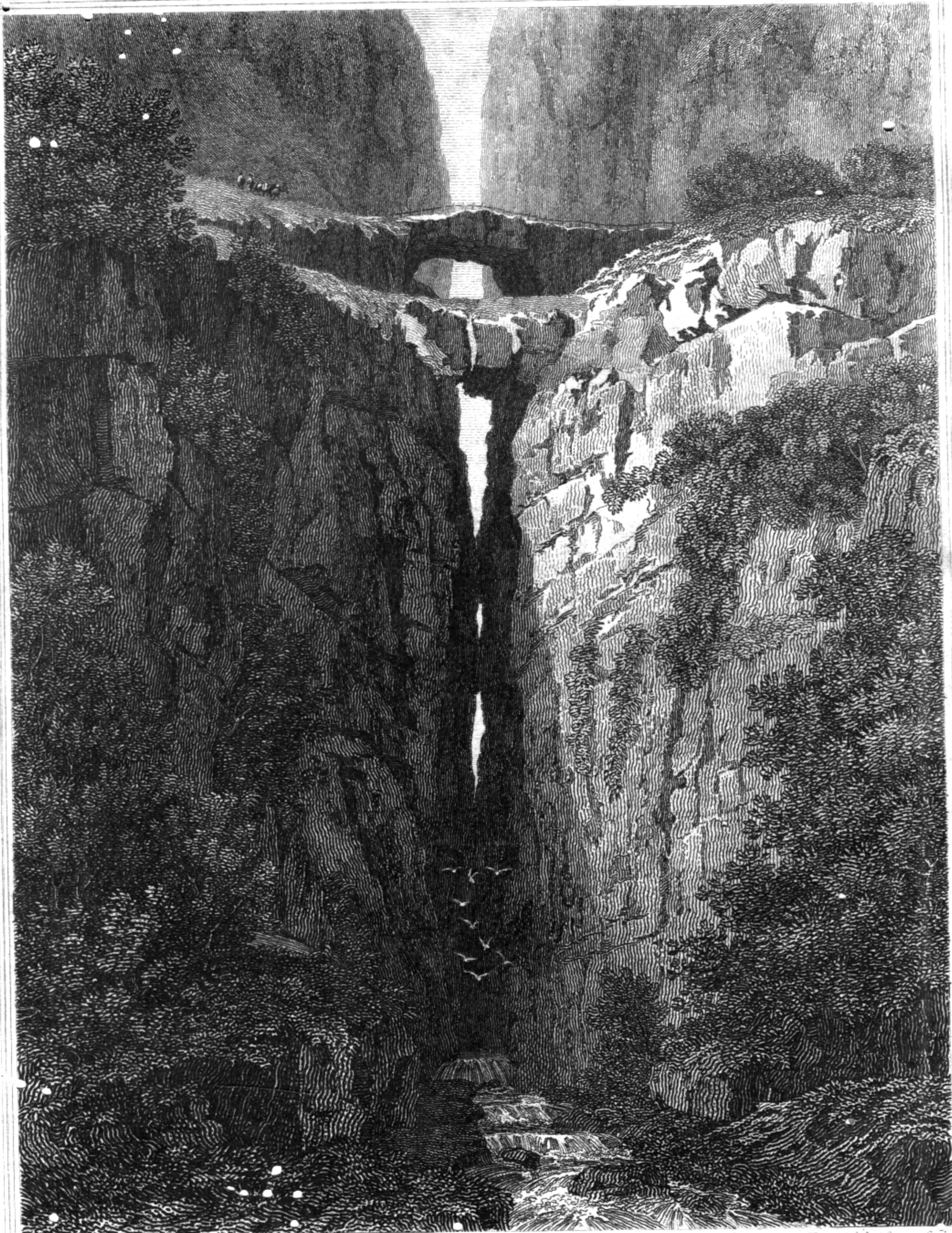
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ILLUSTRATED WITH PLATES.  
VOLUME THE FOURTEENTH.

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LONDON:  
PRINTED FOR LONGMAN, HURST, REES, ORME, AND BROWN, PATERNOSTER-ROW;  
AND CADELL AND DAVIES, IN THE STRAND.

1813.



Drawn by A. de Humboldt.

Engraved by George Cooke.

# *Natural Bridges of Icenonzo.*

London: Published by Longman, Hurst, Rees, Orme & Brown, Paternoster Row, Nov. 1. 1812.

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*SOUTH AMERICA.*

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CAPTAIN BETAGH'S OBSERVATIONS  
ON THE  
COUNTRY OF PERU, AND ITS INHABITANTS,  
DURING HIS CAPTIVITY\*.

**I**T was in the beginning of the ever-memorable year 1720, and about the middle of March, when Captain Shelvocke sent Hatley, and the rest of us, to seek our fortunes in the lighter called the Mercury. Himself, in the Speedwell, went to plunder the village of Payta, where we might easily have joined him, had he imparted his design to us. However, we had not cruised long in sight of Cape Blanco, before we took a small bark, with a good parcel of chocolate and flour. There was an elderly lady aboard, and a thin old friar, whom we kept two or three days; and, after taking out what we wanted, we discharged the bark, and them together. Soon after this, we took the Pink, which Shelvocke calls the rich prize. She had no jealousy of our being an enemy, but kept her way, till seeing the Mercury standing towards her, she began to suspect us. About noon, she put the helm hard-a-weather, and crowded all the sail she could afore the wind; and being in her ballast, this was the best of her failing, which also proved the greatest advantage they could give us; for, had she held her wind, we, in our flat bottom, could never have come up. About ten at night, with rowing and hard failing, we got within shot of the chace, and brought her to, being pretty near the shore. They were about seventy persons aboard, thirty of whom were negroes. Hatley, upon going aboard, left myself and Preslick, with four more hands, in the Mercury, where we continued two or three days, till a heavy shower of rain spoiled

all our bread, and other dry provisions. It was then time for us to get aboard the prize; which we did, sending three hands to take care of the Mercury.

We stood off-and-on the said cape seven or eight days, expecting to meet the Speedwell; and there we set ashore the Spanish captain, the padre, and some gentlemen passengers: at last we spied a sail plying to windward. Not doubting it was the Speedwell, or the Success, we stood towards her, whilst she edging towards us, about ten in the morning, we were got near enough to discover she was a ship of war, as she proved, though neither of these we wished for. The master of our prize had before informed us, that he met the Brilliant cruising for our privateers, which till now, we entirely disregarded. Upon this Captain Hatley advising with me what to do, we concluded, that some advantage might be made of the information given us by the Spaniards; that, as the Brilliant had spoken so lately with the Pink, probably there would not be many questions asked now: upon which Hatley and I dressed ourselves like Spaniards, and hoisted Spanish colours; we confined our prisoners in the great cabin, suffering none of them but the Indians and negroes to appear upon deck, that the Pink might look as she did before: in which contrivance we had succeeded, but for the obstinacy of John Sprake, whom we could not keep off the deck. As the admiral came up, he fired a gun to leeward: hereupon we lowered our top-sail, making easy sail till we got alongside of him: their first question was, if we had heard any thing of the English privateer? We answered, no: the next was, how it happened we were got no farther in our way to Lima? We answered, by reason of the currents: they asked two or three more questions, which we still answered in Spanish. They seemed thoroughly satisfied, and were getting their tacks aboard in order to leave us, when Sprake, and two or three more of our men appeared on the main-deck; a Frenchman aboard the admiral, looking out at the mast-head, cried out, seeing their long trowsers, *Par Dieu, monsieur, ils sont Anglois*; they are Englishmen: upon this they immediately fired a broadside into us, with round and partridge shot, by one of which Hatley was slightly wounded in the leg.

As soon as we struck our flag, the enemy sent for all the English on board, and ordered two of their own officers into the prize. The Spanish admiral then bore directly down upon the Mercury, and fired into her five and twenty guns at least, which bored her sides through and through; but such was the construction of that extraordinary vessel, that though full of water, there was not weight enough to sink her, and the three men who were in her escaped unhurt. Don Pedro Midranda, the Spanish commander, ordered these three men into his own ship, in which he intended to sail to Payta: as for me, he gave directions that I should be sent forty miles up the country, to a place call Piura; and was so kind as to leave Mr. Pressich, the surgeon, and my Serjeant Cobbs, to keep me company: as for Captain Hatley, and the rest, they were ordered to Lima by land, which was a journey of four hundred miles; for that poor gentleman had the misfortune to be doubly under their displeasure; first, for returning into those seas after having been prisoner so long, and being so well used amongst them; and next, for the Cape Frio business, I mean the stripping the Portuguese captain, a good quantity of whose moidores were found about him. The design of the admiral, in this, was, to have that affair searched to the bottom, and the guilty severely punished, without exposing the innocent to any danger. Here, therefore, I shall take my leave of Captain Hatley for the present, and proceed to the observations I made on the road, as the admiral was so good as to send me up into the country till his return from his cruize to Payta, when, as I shall inform the reader in its proper place, I again joined him.

As the weather in this part of the world is much too hot to permit people to labour in the midst of the day, the custom is to travel from six in the evening till eight in the morning. My Indian guide set me on the best mule he had, which not caring to follow company, I led my fellow-travellers the way till ten o'clock, while day-light lasted. I observed the country one open plain, with Indian plantations, regularly enough laid out on each side of us. This champagne country is from thirty to one hundred miles broad, and extends three hundred miles along shore; for I was moving to the southward, having the Cordelier mountains on the left hand, and the great ocean on the right. If this land was well watered, as the soil is pleasant and fertile, it might be as fine a country as any in the world; but travellers are here obliged to carry water for their mules, as well as themselves. At the approach of night we were puzzled in the way; I often found myself stopped by great hills of sand, and my mule as often endeavoured to pull the reins out of my hand; which proving troublesome, the Indian advised me to throw the reins on the mule's neck; and, as soon as that was done, the creature easily hit the way. These sands are often shifted from place to place, which I take to be occasioned by the strong eddies of wind reverberated from the mountains. At night we rested a little at an old empty house in a coppice, about half way, which the guide told us was built by the inhabitants of Piura, for the accommodation of the prince St. Bueno, viceroy of Peru, when they met him at his entrance on his government, and regaled him. At seven in the morning we arrived at Piura, being an handsome regular town, situated on the banks of the river Collan. The Indian conducted us to the house of an honest Spanish gentleman, and his wife, who having received his charge, the guide returned to Payta. In a quarter of an hour's time, the town's people flocked in to see the raree-show; and, instead of being used like prisoners at discretion, we were entertained with respect and civility, which we were not sure to meet with. Our landlord, I should say, keeper's name, was Don Jeronimo Baldivieso: he had five daughters; upon the sight of whom, and their beneficent way of receiving us, we hoped our time would slide easily away, and our captivity prove no way disagreeable. I began now to be sensible of the admiral's favour, in ordering us to this place; for he had such interest in all the kingdom of Peru, that for his sake, we found very good treatment. After we had refreshed ourselves, according to the custom of the place, with chocolate, biscuit, and water, we were diverted with the sound of a Welch harp in some inner apartment: the artist had good command of it; for I heard parts of several famous Italian as well as English compositions; and, upon inquiring, found that all the honest Spaniard's daughters had learned music, and sung or played upon some instrument or other. Though, at first, this seemed a little unaccountable to us, yet I afterwards found, that music was common in Peru; for the Italian party having a few years before prevailed at the court of Madrid, the last viceroy, prince St. Bueno, who was an Italian, had brought a great many musicians of that country along with him, which has now spread music everywhere; and it is as good in Peru, as in Old Spain. I the rather take notice of this, because by our being lovers of music, and behaving peaceably and civilly to the inhabitants, we passed our time very quietly and cheerfully, being exposed only to one inconvenience, which lasted so long as we remained here: this was the daily assembling of the people to stare at us, which myself and my Serjeant Cobbs, bore pretty well; for, being used to exercise in public, we could turn to the right and left without being much incommoded: but our companion Mr. Pressick, being a graver man, at first hung down his head, and was very melancholy; but, by degrees he grew better acquainted with the people, and found

reason to like them so well, that when we were to remove, we had much to do to make him change his quarters.

Almost all the commodities of Europe are distributed through the Spanish America, by a sort of pedlars or merchants, on foot, who come from Panama to Payta by sea, and, in their road from the last-mentioned port, make Piura their first stage to Lima, disposing of their goods, and lessening their burdens as they go along. Some take the road through Caxamarca, others through Truxillo, along shore from Lima : they take their passage back to Panama by sea, and perhaps carry a little cargo of brandy with them : at Panama they again stock themselves with European goods, returning by sea to Payta, where they are put on shore ; there they hire mules, and load them, the Indians going with them, in order to bring them back ; and so these traders keep in a continual round, till they have got enough to live on. Their travelling expences are next to nothing ; for the Indians are brought under such subjection, that they find lodging for them, and provender for their mules : this every white face may command, being a homage the poor Indians are long accustomed to pay ; and some think they have an honour done into the bargain, except, out of generosity, they now and then meet with a small recompence. In the British and French nations a pedlar is despised, and his employment looked upon as a mean shift to get a living ; but it is otherwise here, where the quick return of money is a sufficient excuse for the manner of getting it ; and there are many gentlemen in Old Spain, who, when their circumstances in life are declining, send their sons to the Indies to retrieve their fortune this way : our lodging was in an outhouse purposely for these travelling merchants. According to the Spanish custom, we had our dinner sent to the table under cover, where Don Jeronimo and we eat together, while the good lady of the house, and her daughters, sat together in another room. This is the practice at all meals ; and, if any strong liquors are drank, it is then. In all our conduct, I think the good Spaniard was never disobliged, except once, when he saw me drinking a dram with the doctor at a little victualling-house. As nothing is more disagreeable to the Spaniards than drunkenness, I had much ado to make amends for this step towards it ; though they admit of gallantry in the utmost excess ; so that it is only changing one enormity for another. After we had passed about six weeks at Piura, our Indian guide came again to conduct us to Payta, the man of war being returned. When we were upon the point of taking leave, our surgeon was missing, which retarded us a day longer. They had concealed him in the town, and designed to keep him there, as he was a very useful man ; and if he could have had a small chest of medicines, he might soon have made a handsome fortune. However, the next day we mounted our mules, and parted with great reluctance, especially with our kind host Don Jeronimo, and his family. We went aboard the *Brilliant* at Payta, which, having done nothing at sea, made a sort of cruising voyage to Calao, the port of Lima. The civility I received from the admiral or general of the South Seas, as he is there called, is what I have already mentioned. I shall here only add one circumstance to the honour of Monsieur de Grange, a captain under the general. As soon as we were taken by the *Brilliant*, as aforesaid, this gentleman, seeing the soldiers had stripped us, being the conquerors usual perquisites in all these cases, he generously gave me an handsome suit of cloaths, two pair of silk stockings, a hat, wig, shirts, and every thing according ; so that instead of suffering, I was in reality a gainer by this accident.

Our voyage to Lima took up about five weeks ; and, as soon as we arrived there, we were immediately sent to the same prison in which the ship's company were confined, who were sent hither before us, Mr. Hatley only excepted ; who, for the reasons be-

fore-mentioned, was confined by himself, and very roughly treated. In a short time after our arrival, commissioners were appointed to hear our cause, and to determine, whether we should be treated as criminals or as prisoners of war. The reason of this was, the charge brought against us for piracy, not for what we had done in the South Seas, or at least, not for that only, but upon a supposition, that we plundered the Spaniards there, because none but Spaniards were to be met with, having used the like violence, as their charge set forth, against other nations, before our arrival in these seas; which would have shewn a piratical disposition through our whole conduct. And of this they thought they had probable proof, since by the moidores found upon Hatley, it appears they were taken from the subjects of a prince in perfect amity with the crown of England: but it was happy for us that the viceroy, Don Diego Morfilio, who was an archbishop, and in the decline of life, was pleased coolly to discriminate the affair, and finding really but one of us guilty, would not sign any order for shedding innocent blood: as for Hatley, some were for sending him to the mines for life, others for hanging him; but the several accounts of Captain Shelvocke's vile proceedings contributed to his deliverance, the truth of which here were enough of our people at Lima to witness; for, besides Lieutenant Serjeantson, and his men, who were brought hither, came the men who Shelvocke sent with Hopkins to shift for themselves in a poor empty bark, who, for want of sustenance, was forced to surrender to the Indians; so that the court believing Shelvocke more a principal in that piratical act than Hatley, and supposing we had been plagued enough before we came hither, they thought fit to let us all go by degrees: Hatley indeed was kept in irons about a twelvemonth, and then was allowed to return to England. I was much more happy in this respect, since my imprisonment lasted but a fortnight; which was owing to the interposition of Captain Fitzgerald, a gentleman born in France, who had a great interest with the viceroy, and who, upon his becoming security for me, permitted me to have the liberty of the city, provided I was always forthcoming when I was called for. As I was now pretty much at ease, I began to look about me, and to inform myself of what was passing in this part of the world.

Among the first of my inquiries, was that after the condition of other English prisoners in the place; and, upon asking for Mr. Serjeantson, and his men, who were here before us, I understood that most of them had taken up the religion of the country, had been christened, and were dispersed among the convents in the city. The first that I saw, had got his new catechism in one hand, and a pair of large beads dangling in the other. I smiled, and asked the fellow, how he liked it. He said very well; for having his religion to chuse, he thought theirs better than none, since it brought him good meat and drink, and a quiet life. Many of Shelvocke's men followed this example; and I may venture to say, this was as good a reason as most of our people could give for their occasional conformity. It is here reckoned very meritorious to make a convert, and many arguments were used for that end; yet was there no rigour shewn to bring any of us over. Those who thought fit to be baptized, had generally some of the merchants of Lima for their padrons or godfathers, who never failed giving their godchildren a suit of cloaths, and some money, to drink their healths. About this time, four or five of Clipperton's men, and as many of Shelvocke's, got leave from their convents to meet together at a public house kept by one John Bell, an Englishman, who had a negro wife, that, for some services or other, had got her freedom. The design of this meeting was to confirm their new baptism with a bowl of punch: the consequence of which was, they all got drunk, and quarrelled; and, forgetting they were true catholics, mistook an image of some honest saint, that stood in a corner, for one of their own company,

knocked him down, and demolished him. I, missing the fellows for a few days, inquired at John's house what was become of them; he told me the story, and said, they were all put in the Inquisition, for the thing having taken air, he was obliged to complain of it, or go thither himself; but promised, that, underhand, he would endeavour to get them released; which, I found afterwards, was done in five days, so that they had time to repent, and be sober. Bell said, if the men had still remained heretics, this drunken bout had not come within the verge of the ecclesiastical power; but, being novices, and just admitted into the church, they were the easier pardoned, as their outrage upon the saint was no proof of their relapse into error, or an affront to the catholic faith, since done when they were all disordered in liquor. At length, about a dozen men in both our ships, being well instructed, were discharged from the cloisters, and sent to Calao, to help to careen and fit out the Flying-fish, then designed for Europe. Here they entered into a project to run away with the Margarita, a pretty sailing ship, that lay in the harbour, and go upon the account for themselves, which differs nothing from piracy; but, not knowing what to do for ammunition, and a compass, they applied to Mr. Serjeantson, telling him, they had a design to steal away by land to Panama, where, being an English factory, they might have a chance to get home; that they had got half a dozen firelocks, with which they might kill wild hogs, or get some game, as they went along, if he would be so kind as to help them to a little powder and shot, and a compass to steer their way through the woods. The fellows, by begging, and making catholic signs to the good people at Lima, that they were poor English newly baptized, had got together some dollars, which they desired Serjeantson to lay out, who, not mistrusting the plot, took their money, and bought them what they wanted. Thus furnished, one of them came to me at Lima, and said, there was an opportunity offered to make my fortune, by running away with the Margarita at Calao, if I would embrace it; whereupon he told me the story, and that Sprake was to have the command, as being the only artist among them. I answered, that it was a bold design; but as Captain Fitzgerald had engaged for my honour, I was obliged not to meddle with it. In a few days the plot was discovered, their lodgings were searched, their arms taken away, and they put in prison. The government was greatly provoked, and had near determined their execution, when an order came to release all but Sprake, who, being the projector, was kept in irons two or three months, and then set at liberty. If this shews the restless enterprising temper of our seamen, it proves, at the same time, that the Spaniards in Peru are by no means so cruel, either in religious or state prosecutions as in Europe; though I am inclined to think, that the conversion of these people, such as it was, operated greatly in their favour; it may be also, that they were some way influenced by fear, since the English privateers were still upon the coast, and in case they had received intelligence of these people being severely dealt with, might have revenged it on some of their prisoners. But it is to little purpose to employ one's thoughts in attempting to discover the motives of an act of Spanish policy, since, whatever those motives were, the act in itself was compassionate and good.

The dominions which the Spaniards possess in America are so large, and so valuable, that there is no doubt, if they were properly governed, they might render that monarchy equally formidable in Europe, and the Indies. The long stay I made in Peru, the present state of which there are few opportunities of knowing in this part of the world, afforded me the means of examining with leisure and attention their manner of living, the form of their government, the nature of their amusements and diversions,

nities of inquiring into those things very minutely, which did not fall immediately under my observation as an eye-witness; and of these I shall endeavour to give the reader as clear, as distinct, and as accurate an account, as is in my power, with the greatest regard to truth, and constantly distinguishing between what fell immediately under my knowledge, and what was derived to me by the information of others. This was certainly the best use I could make of that leisure I enjoyed, while a prisoner in the hands of the Spaniards; and may possibly contribute more to the service of my country, than if I had employed myself in privateering on the coast. I shall begin with the description of the place where I spent most part of my time, and which, as it is the centre of the Spanish government in these parts, enabled me to gain a greater insight into their affairs, than if I had passed my days in any of their ports, or in an inland city, less frequented. The liberty I was allowed, and the kind usage I received, made this still the more easy; and therefore it may be depended upon, that what I offer the world is a fair and genuine representation of matters of fact, and not a fine-spun story, framed from conjecture and hearsay. If, after all, the wide difference between the manners of these people and those in the northern part of Europe, should give it an air of extravagance, I must desire the reader to reflect, that this is not owing to me, but to the subject. A man, who undertakes to describe things he has seen, must describe them as they are, without regard to the appearance they may make in the eyes of others. But to come to the point: The great and rich city of Lima is the metropolis of Peru, and the seat of an archbishop. It is a regular-built city, the streets all strait and spacious; so that you go through it any way, without turning a corner. It is composed of little squares, like St. Iago, the capital of Chili; which was copied from this. It stands in an open vale, having only a gentle stream to water it, and which divides it, as the Thames does London from Southwark, allowing for the great disproportion. The port of Lima is at Calao, seven miles below it. The houses are only one story high, of twelve or fourteen feet, because of the frequent earthquakes in that country. There are about eight parishes, three colleges for students, twenty-eight monasteries of friars, and thirteen monasteries of nuns; so that the religious take up a fourth part of the city. However, by the quick flow of money, and the vast sums bequeathed, being the effects of celibacy, they are all well endowed and supported; besides which, there are two hospitals for the sick, poor, and disabled, and where several of our men were kindly looked after. The length of the city, from north to south, is two miles, the breadth one and an half; the wall, with the river, making a circumference of six miles. On the east part of the stream lies the other part of the city, being joined by a very handsome stone bridge of seven arches. I computed that there were 60 or 70,000 persons in Lima, all sorts and colours included; and I do not wonder at any multiplication in a city, which is the centre of so much affluence and pleasure: for, besides the natural increase of the inhabitants, all ships that trade that way, whether private or public, generally leave some deserters, who chuse to stay behind, from the encouragement all white faces meet with. Of all parts of the world, the people here are most expensive in their habit. The men dress as they do in England, their coats being either of silk, or fine English cloth, and hair camlets, embroidered, or laced with gold and silver; and their waistcoats commonly the best brocades. The women never wear hoops or stays, only a stitched holland jacket next their shifts. They generally throw over their shoulders a square piece of swan-skin flannel, entirely covered with Flanders lace; besides the silver or gold lace round the petticoat. When they walk out, the Creolian women are veiled, but not the Mulatto; and, till the age of thirty or forty, they wear no head-cloaths, their hair being tied behind with fine

ribbands. But the pride of the sex appears chiefly in Mechlin and Brussels lace, with which they trim their linen in a most extravagant manner, not omitting their sheets and pillows, besides the outward covering of the mantle aforesaid. Their linen is doubly bordered with it, top and bottom, with ruffles of four or five furbelows hanging down to the knee. Then, as to pearls and precious stones, which they wear in rings, and bracelets for the neck and arms, they are very extravagant, though the value is hardly equal to the shew they make.

The viceroy has an handsome palace in the great quadrangle of the city, which I take to be near as large as Lincoln's-Inn-Fields, London. His salary is ten thousand pounds a year; and his perquisites double that sum: And though his government expires at three, four, or five years' end, as the king pleases, yet, it is supposed, he makes a good fortune for life; for he has all places in his gift, both in the government and army, throughout Peru, except particular persons are sent or nominated by the king. The judicial court consists of twelve judges, not to mention the inferior officers, counsel, and solicitors. Here all causes should come to be decided, but they are too often determined beforehand in favour of the party who gives most money; and though these vast dominions abound in riches, yet there is not abundance of work for the lawyers, because the statutes are few and plain, which is certainly happier than a multitude of laws explaining one another, till they are so intricate, that the issue of a cause depends more upon the craft of a solicitor and advocate, than the truth of the case. Besides all this, a multiplication of laws begets an infinity of attornies and counsellors, who live high and great upon the distresses of other people, and as often argue a man out of his right as into it. These hardships are past retrieving; because every magistrate knows his reign to be but short, and if he don't make a fortune he is laughed at; so that they wink one at another; and the great distance between Peru and Spain, is a reason the king's orders are seldom regarded, being two years going backward and forward; whence arise many clandestine doings; for, according to law, the king should have a twentieth part of the gold, and a fifth part of all silver; but there are vast quantities that never pay duty, carried privately over the continent the north way, as well as the south, by trading ships; and though there are prodigious sums allowed for the militia, garrisons, and repairs of fortifications, yet it is not one-half applied: from all which it is easy to imagine, what immense revenues would come to the treasury at Madrid, if his Catholic Majesty was but faithfully served.

The country in Peru is naturally subject to earthquakes; at Lima they had two great ones about fifty years ago, which overturned houses, churches, and convents; and, in the reign of Charles II. the late king of Spain, there was an earthquake near the equinoctial line, that lifted up whole fields, and carried them several miles off. Small shocks are often felt without doing any harm; and I have been two or three times called out of bed when such a thing has happened, though we have heard no more of it; but, upon these occasions, the bells always toll to prayers. Notwithstanding this country, especially nigh the coast, has suffered much by earthquakes, yet their churches are lofty enough, and neatly built: that part of their architecture, which requires most strength, is generally finished with burnt bricks; but their houses are all built with bambo, canes, and bricks, dried only by the weather, which are durable enough, because it never rains: the covering is a matting with ashes upon it, to keep out the dews, which is all the wet they have. The small river of Lima is mostly snow-water, descending from the neighbouring mountains, which are covered all the year with snow, but partly dissolved in the summer season, which is from September to March. One would expect it much hotter thereabouts than it is, there being no proportion between the

the heat of this climate in America, and the same degree of latitude in Africa: for which there are two reasons; the one is the cool temper of the air, proceeding from the congealed snow on the mountains, which diffuses itself every way; the other is the humidity of the vapours, which hang over the plains, and which are so frequent, that, when I came first to Lima, I often expected it would rain. These vapours are not so coarse, low, and gloomy as our fogs; nor separated above, like our summer clouds; but an exhalation between both, being spread all round, as when we say the day is overcast: so that sometimes a fine dew is felt upon the outward garments, and discerned by the eye upon the knap of the cloth. This is an happy convenience at Lima, the people being thus screened one half of the day from the sun; and though the afternoon be sun-shine, 'tis very tolerable, being mixed with the sea breezes, and not near so hot as at Lisbon, and some parts of Spain in Europe, which are thirty degrees further from the equator. The want of rain in this part of the continent obliged the poor Indians, before the conquest, to make drains and canals, for bringing down water from among the distant mountains; which they have done with such great labour and skill, that the vallies are properly refreshed, producing grass, corn, and variety of fruits, to which the afore said dews may also a little contribute; and therefore this shews, that there is no judging from circumstances, whether a country be habitable or not, since, in this respect, nothing would seem more conclusive than the absolute want of rain. A Spanish historian has given us the natural cause of this perpetual drought: he observes, that the south-west winds blow upon the Peruvian coast all the year round, and the ocean is therefore called Pacific, because the winds never disturb the waters: these easy gales always bear away the vapours from the plains, before they can rise and form a body sufficient to descend in a shower; but, when they are carried farther and higher, they grow more compact, and at length fall, by their own weight, into rain. They have plenty of cattle, fowl, and fish, and all provision common with us, except butter, instead of which they always use lard; they have oil, wine, and brandy enough, though not so good as in Europe. They drink much of the Jesuits herb camini, brought from Paraguay by land; for all East India tea is forbid: they make a decoction of it, and suck it through a pipe; it is generally here called mattea, being the name of the bowl out of which they drink it. Chocolate is their usual breakfast, and a grace-cup after dinner; sometimes they drink a glass of brandy for digestion, but scarce any wine at all. In the kingdom of Chili they make a little butter, such as it is; and their way of doing it is remarkable: the cream is put into a sheep-skin, and kept on purpose for that use; two women lay it on a table, and shake it between them, till it comes.

The Spaniards are no friends to the bottle; yet gallantry and intrigue are here brought to perfection; for they devote so much of their time to the service of the fair sex, that it is unmannerly not to have a mistress, and scandalous not to keep her well. As for the women, they have many accomplishments, both natural and acquired; their conversation is free and sprightly, their motion graceful, their looks winning, and their words engaging: they have all a delicate shape, not injured with stiff-bodied stays, but left to the beauty of nature; so that there is no such thing as a crooked body among them. Their eyes and teeth are particularly excellent; and their hair, being generally of a dark polished hue, is finely combed, and platted and tied behind with ribbands, but never disguised with powder; for the brightness of their skins round the temples appears very well shaded through the hair, like light through a landscape. Though amours are universal at Lima, yet the men are careful enough to hide them; for no indecent word or action is allowed in public. They have two seasons for these entertainments; one is at the fiesta, or afternoon's nap, which is commonly with the mistress;

mistress : the other is in the evening, cross the water, in calasches, or at the great square in the town, where the calasches meet in great numbers towards the dusk ; these are flung like our coaches, but smaller, and many of them fit only for two, sitting opposite : they are always drawn by one mule, with the negro driver upon his back ; and it is usual, among those calasches, to observe several of them with the windows close up, standing still for half an hour together. In these amusements, they have several customs peculiar to themselves : after evening prayers, the gentleman changes his dress from a cloak into a montero, or jockey-coat, with a linen laced cap, and a handkerchief about his neck instead of a wig : if he wears his hair, it must be tucked under a cap, and that flapt all down ; so that it is an universal fashion to be disguised some way or other ; for those who have no mistress are ashamed to be thought virtuous, and must be in some mask or other to countenance the way of the world. But, as all this is night-work, they have an established rule to prevent quarrels, which is, never to speak or take notice one of another, whether they are going in quest of, or visiting their ladies ; so that, in short, the forepart of the night is a masquerade all the year round. Among the rank of people who do not keep calasches, there are several points to be observed, particularly when they take the evening air ; one couple never walks close upon the heels of another ; but, to prevent the publishing any secret whispers, each couple walks at the distance of twelve yards at least ; and if any lady drops a fan, or any thing, by accident, a gentleman may civilly take it up, but he must not give it to the lady, but the gentleman who is with her, for she may be the sister or wife of him that takes it up ; and, as the women are all veiled, these wise laws are invented to prevent any impertinent discoveries. A freedom of that kind is looked upon as the highest affront in all gallantry, and merits a drawn sword through the liver. They are so careful in these rules, that if any man sees his intimate friend any where with a woman, he must in no wise take notice of him, or speak of it afterwards. Things of this nature are all done with the greatest gravity imaginable, and the practice of gallantry becomes, by this means, decent, soft, and easy : but notwithstanding the commerce of love is here so regularly settled, yet there are jealousies now and then subsisting, which sometimes have ended fatally. There was a story of this sort pretty fresh when I was at Lima :—a young lady had for some time, as she thought, been the sole sovereign of her lover's heart ; but, by chance, she found him in the company of another woman ; and, as our inimitable Shakespeare has it, "Trifles, light as air, are, to the jealous, confirmations strong ;" she waited therefore no further proof of his infidelity, nor expected any excuse for the wrong done her, but suddenly drew his dagger, and dispatched him. She was soon brought to trial ; and when every one expected she would pay the forfeit of her life, her judges gave it this turn, that it was not malice, but excess of love, that prompted her to the rash deed ; she was therefore acquitted : but some nice casuists thought she should, in honour, have hanged herself. How agreeable soever these practices are to the Creole Spaniards, yet they cause an inconvenience to society ; for the men are so seriously taken up with these sorts of matters, that the women engross most of their time, and spoil public conversation. For this reason, there are no taverns or coffee-houses ; so that the men are only to be met with at their offices, or at church. The same inconvenience, in a greater or less degree, attends this propensity to gallantry, wherever it prevails ; and may be justly considered as the bane of industry, corrupting the minds of both sexes, and instilling the basest principles of indolence and debauchery.

It is chiefly owing to this effeminate disposition, that all manly exercises, all useful knowledge, and that noble emulation, which inspirits virtue, and keeps alive respect

to the public good, are unthought of here: for, as there is naturally a great mixture of phlegm and stubbornness in Spanish constitutions, so whatever settles amongst them into a custom, obtains the force of an inviolable law; and, however absurd, however contrary to religion or virtue, however noxious to society, or fatal to private peace, is not to be rooted out by art or force. The amusements, therefore, that serve to relax the labours of the industrious in other countries, and yet keep alive the vigour and activity of body, and of mind, are never known in Peru; and whoever should attempt to introduce them, would be considered as an innovator, which, among Spaniards, is a frightful thing: nor would they suffer themselves to be convinced, that martial exercises, or literary conferences, are preferable to intrigues. They have, however, a sort of playhouse, where the young gentlemen and students divert themselves after their fashion; for what performances they have in the dramatical way are so mean, that they are hardly worth mentioning, being scripture stories interwoven with romances, and, which is still worse, with obscenity.

It was at this theatre, that two Englishmen, of Monsieur Martinet's Squadron, fought a prize a little before I came to Lima: they first obtained leave of the viceroy to exercise at the usual weapons; and, after the shew-day was fixed, most of the time was taken up with preparatory ceremonies, to bring, as we phrase it, an house; preceded by beat of drum, in their Holland shirts and ribbands, saluting the spectators at the windows with a flourish of the sword; so that, by the extraordinary gallant manner of the thing, the whole city came to see the trial of skill: some gave gold, but very few less than a dollar: when the company, male and female, were close packed together, the masters mounted the stage; and, after the usual compliment, peculiar to the English nation, of shaking hands before they fight, they retired in great order, and stood upon their guard. Several bouts were played without much wrath or damage; but the design of this meeting being more to get money than cuts or credit, one of the masters had the seasonable fortune to receive a small hurt on the breast, which, having blooded his shirt, began to make the combat look terrible; upon which the company fearing, from such a dreadful beginning, that the zeal of the champions might grow too warm, and conceiving, till they were reconciled, no man in the house was safe, unanimously cried out *Basta, Basta*, which signifies Enough, Enough; and so the house broke up. The sailors, finding this a better prize than any they ever met with at sea, humbly besought his Excellency to grant them a licence for another trial of skill; but the viceroy, and all the people, were against it, from a religious objection that could never be got over; and that was, lest the fellows should kill one another, and die without absolution. One cannot help observing, when so fair an opportunity offers, that the public diversions of any place always shew the temper of a people; whence appears the danger of introducing, under the notion of elegance, the amusements of a dejected or an effeminate nation, because, in time, they every where produce the same effects; that is to say, they mould those, amongst whom they are introduced, into the same temper with those from whom they are derived; and I dare say, if gallantry prevailed here as much as in Peru, we should soon grow as much out of love with prize-fighting, and with whatever else had any affinity with labour or danger, as they: so natural it is, for the love of pleasure to dastardize the very bravest people.

A further instance we have of this deficiency of spirit in the Spaniards, from their carelessness with respect to those countries and islands yet undiscovered, in the neighbourhood of their vast dominions in America; notwithstanding the assurances they have had, that some of these countries are richer, and of much greater consequence, than those they have already conquered or settled. The first Spanish governors of Mexico

and Peru were not of this indolent and un aspiring temper; but bestowed great care and pains in endeavouring to obtain the most perfect knowledge possible of the places bordering upon those under their respective governments; but now that generous thirst of fame is absolutely extinguished, and the Spanish governors, instead of aiming at new discoveries, content themselves with plundering their fellow-subjects, that are settled in the old. The regions which lie north of the kingdom of Mexico, are known to abound with silver, precious stones, and other rich commodities; yet the Spaniards not only decline their conquest on that side, but discourage, as much as they can, the reports spread of the wealth and value of those countries. Upon the same principles, they give no sort of encouragement to attempt penetrating into the heart of South America, whence the best part of the riches of Peru is known to come; the mountains, which are at the back of the country, being extremely rich in gold; and the regions on the other side, towards the North Seas, known to be inhabited by nations that have abundance of that valuable metal; though, for fear of being oppressed by the Europeans, they conceal it as much as possible. If this proceeded from a maxim of true policy, viz. that of being content when they have enough, and applying themselves to govern well what they already possess, it would be extremely commendable, and would certainly contribute to the safety, peace, and continuance of their empire in those parts. But while it appears plainly, from the conduct of their viceroys and other officers, that they have nothing in view but accumulating wealth, at the expence of those they should protect, it is natural for the people to wish, that they would apply themselves to discoveries, which would afford the governors means of making their fortunes, without distressing such as are already subjects to the crown of Spain.

But, of all the discoveries that have ever been talked of amongst the Spaniards, that which has made the most noise, is the Island or Islands of Solomon. These are supposed to be the same with those discovered by the famous Ferdinand de Quiros: he reported them to be excessively rich, as well as extremely populous; and desired, by repeated memorials, that he might be authorized, by the Crown of Spain, to proceed in, and finish that discovery; but, as all his instances were neglected, in the space of a few years it became a question, whether there really were any such islands or not; and the treating this matter as a romance, was, for some time, a political maxim with the viceroys of Peru; and perhaps, by degrees, the very wisest people in America would have been brought over to this opinion; but it so happened, that, towards the latter end of the last century, such discoveries were made as to the reality of these islands, that Don Alvaro de Miranda was sent in the year 1695, upon discovering them, in which he miscarried; but, in the search, met with four islands, between 7 and 10° of south latitude, wonderfully rich and pleasant; the inhabitants of which were a better looking people, and far more civilized, than any of the Indians upon the continent. This occasioned a good deal of discourse at that time; but the disturbances that followed soon after, took up people's thoughts to such a degree, that all hopes of finding, or even endeavouring to find, these happy islands, were intirely laid aside.

Yet, while I was in Peru, this attempt was renewed again, though to very little purpose, by an odd accident. Before I enter upon this, I must be obliged to say something of the person employed in the discovery: among the rest of the French traders or interlopers, that were destroyed by Martinet's squadron, there was one Mr. Thaylet, with whom I was well acquainted at Lima, who lost all his effects: but even this hard usage could not drive him out of Peru; he came thither to make a fortune, and he did not, by any means, care to return home a beggar. He had formerly commanded several good ships, and was an expert artist. He offered his service to the Government,

and this offer of his was very kindly received. The first affair of importance in which he was employed, was an expedition to the Island of Juan Fernandez, in order to find there the bottle, with the instructions, which Captain Clipperton left behind him for Captain Shelvocke, when, in pursuance of his instructions, he touched at that island, and cruised in its neighbourhood for a month. Of this the viceroy was informed by one of Clipperton's men, that was taken prisoner; which information immediately produced a resolution to send for those instructions, in order to prevent the English privateers from joining; and a more proper man for such an expedition could not have been found than Mr. Thaylet, who, in point of ingenuity and practice, was a much more capable man than most in the Spanish service. This circumstance of sending for the bottle is the most authentic testimony that can possibly be expected to the truth of Thaylet's journal, and the history already given of Clipperton's proceedings. I might add, that it is as direct a refutation of all that Captain Shelvocke has advanced upon this subject; so that it is impossible for any man, who considers it, to believe what he charges Captain Clipperton with to be true; or to dream, that it ever was the intention of Clipperton to desert Shelvocke. It might also be observed, that the latter does not so much as pretend to have left any instructions for Clipperton, in case he should come to any of the places where Shelvocke had touched; the inference from which is very easy.

While Mr. Thaylet was gone upon his cruise, a Spanish ship arrived at Calao, the master of which reported, that, being driven out of his course, he had made the Islands of Solomon. This occasioned much discourse on that subject, and the comparing all the different accounts that had been given of these islands, and their inhabitants, which appeared so clear, so probable, and well connected, as scarce to leave any doubt of the veracity of such as pretended to have made this discovery. In the midst of the discourses raised by this accident, another ship arrived, with the like account, attended with circumstances, which rendered it evident, that there could not be any fraud or collusion in the case; but that both had, by pure accident, been driven upon the same island. This was very lucky for Mr. Thaylet, since, while he was employed in one expedition, another was thus unexpectedly provided for him. On his return with the instructions, and the two men who deserted there, the viceroy, willing to encourage him, thought of this short expedition for him in the same vessel, being an English ketch of about sixty tons, and in which he had served Captain Martinet as a tender; for the intelligence he had received of Solomon's Island made his Excellency curious to pursue the discovery. He therefore ordered the ketch to be fitted out for two months, under Thaylet's command; who accordingly sailed into  $10^{\circ}$  south, in which latitude the island was said to lie. He cruised thereabouts till his provision was very nigh expended, and returned, without success. However, as the same account came by two different ships, who touched there, the Spaniards verily believe there is such a place; for the men reported, that the natives, as to their persons and behaviour, were much like the Indians on the continent; that they had gold and silver things among them; but that their language was strange and unintelligible. The reason why Mr. Thaylet could not meet with Solomon's Island, might be from the uncertainty of the latitude, and his inability of making further search, being provided only for two months; for I have been informed in London, that the said island or islands lie more southerly in the Pacific Ocean, than where they are laid down in the Dutch maps; and the two Spaniards, who had been there, were only small trading vessels, carried thither by irregular currents; and could give no certain account of the latitude, because they kept no reckoning. - And thus ended all thoughts of prosecuting this discovery at that time.

As the riches of Peru consist chiefly in their silver mines, I shall endeavour to treat of these, not only from my own experience, but from the best lights I have been able to derive from the strictest inquiry I had it in my power to make from others. There are two sorts of silver mines; the one, where silver is found scattered about in small quantities; the other, where it runs in a vein between two rocks; the one excessively hard; and the other much softer: and it is these last, which best deserve, and are generally distinguished by, the name of silver mines. This precious metal, which is, in other countries, the standard or measure of riches, is, in Peru, the riches of the country, considered in another light, I mean that of a natural commodity; for, throughout the whole of that vast country, there are almost every where silver mines to be met with, of more or less value, according as the ore produces more or less silver, and can be wrought at a greater or less expence. There are some, but not a great many, mines to the northward of Lima; but, to the south, they are very numerous. On the back of the Andes, there lies a nation of Indians, called los Plateros, or the Plate-men, from the vast quantities they possess of silver; but the Spaniards have very little communication with them. The best part of the mine countries are to the south of Cusco, from thence to Potosi, and so to the frontiers of Chili; and where, for the space of 300 miles, there is a continued succession of mines, some being discovered, and others deserted, every day.

It is a common thing for the people here, as well as elsewhere, to complain of the present times, and commend the past, as if heretofore there were infinitely greater quantities of silver dug out of the mines than at present: and, perhaps, with regard to particular mines it may be so; but, upon the whole, doubtless the quantities of silver that are annually obtained in the Spanish West Indies abundantly exceed what were formerly exported from thence. As to the names of those, which have been most remarkable, or are so at present, in the country of Peru, they are these; viz. the mines of Loxa and Camora, Cuenca, Puerto Veio, St. Juan del Oro: these are wrought at present. Those of Oruro and Titiri are neglected. Those of Porco and Plata filled up. At Potosi there are a great number of mines. And those of Tomina, Chocaia, Atacuma, Xuxui, the Calchaques, Guasco, Iquique, &c. are all wrought with more or less profit; and this according to the skill of their proprietors, or of such as have the direction of these works. It is generally believed, and there seems to be some reason for it, that experience has taught the Creolians here a perfect acquaintance with minerals, and the art of treating them, so as to obtain the largest profit. But, however, when one considers their ignorance in other arts, their going on constantly in the same beaten track in this, together with their vast waste of quicksilver, one is almost tempted to believe, that our European miners might manage their works to still greater advantages. This seems the more probable, when one reflects, that this knowledge of theirs is not at all founded upon principles, but is, properly speaking, an art built upon accidental discoveries, in which there is little of accuracy, and abundance of uncertainty; which will be more evident to the reader, when he has perused and considered the following account of the manner in which the silver is extracted from the ore at the mines.

The most perfect silver that comes from thence, is in that form which the Spaniards call Pinna, which is a lump of silver extremely porous, because it is the remainder of a paste, made of silver-dust and mercury; and the latter being exhaled, leaves this remainder of the mass spongy, full of holes, and light. It is this kind of silver that is put into different forms by the merchants, in order to cheat the king of his duty, though that is but very moderate; and therefore all silver in this condition, if found any where

on the road, or on board any ship, is looked upon as contraband goods, and is liable to seizure. In regard to the art of refining, therefore, I am to shew the progress of the ore from the mine to this kind of mass or cake: after having broken the stone taken out of the vein of ore, they grind it in their mills with grind-stones, or in the Ingenios Raales, or royal engines, which consist of hammers or pounders,\* like the French plaster-mills. They have generally a wheel of about twenty-five or thirty feet diameter, whose long axle-tree is set with smooth triangles, which, as they turn, hook or lay hold of the iron hammers, lift them up to a certain height, from whence they drop at once at every turn; they generally weigh about 200 weight, and fall so violently, that they crush and reduce the hardest stones to powder by their weight alone. They afterwards sift that powder through iron or copper sieves, to take away the finest, and return the rest to the mill. When the ore happens to be mixed with some metals, which obstruct its falling to powder, as copper, then they calcine that in an oven, and pound it over again.

In the little mines, where they use none but mills with grind-stones, they, for the most part, grind the ore with water, which makes a liquid mud, that runs into a receiver; whereas, when it is ground dry, it must be afterwards steeped, and well moulded together with the feet for a long time. To this purpose they make a court or floor, where they dispose that mud in square parcels about a foot thick, each of them containing half a caxon or chest, that is, twenty-five quintals, or 100 weight of ore; and these they call Cuerpos, that is, bodies. On each of them they throw about 20 weight of sea or common salt, more or less, according to the nature of the ore, which they mould, and incorporate with the earth for two or three days. Then they add to it a certain quantity of quicksilver, squeezing a purse made of a skin, into which they put it, to make it fall in drops, with which they sprinkle the body or mass equally, according to the nature and quality of the ore. They allow to each mass ten, fifteen, or twenty pounds; for, the richer it is, the more mercury it requires to draw to it the silver it contains: so that they know not the quantity, but by long experience. An Indian is employed to mould one of these square parcels eight times a day, to the end that the mercury may incorporate with the silver. To that effect they often mix lime with it, when the ore happens to be greasy, where caution is to be used; for they say, it sometimes grows so hot, that they neither find mercury nor silver in it; which seems incredible. Sometimes they also strew among it some lead or tin-ore, to facilitate the operation of the mercury, which is slower in very cold weather, than when it is temperate; for which reason at Potosi and Lipes, they are often obliged to mould the ore during a whole month, or a month and an half: but, in more temperate climates, the amalgama is made in eight or ten days.

To facilitate the operation of the mercury, they in some places, as at Puno and elsewhere, make their buiterons or floors on arches, under which they keep fires to heat the powder of the ore, for twenty-four hours, on a pavement of bricks. When it is thought, that the mercury has attracted all the silver, the assayer takes a little ore from each parcel apart, which he washes in a little earthen plate, or wooden bowl; and, by the colour of the mercury found at the bottom of the bowl, knows whether it has had its effect: for, when it is blackish, the ore is too much heated; and then they add more salt, or some other drug. They say, that then the mercury dispara, that is, shoots or flies away. If the mercury is white, they put a drop under the thumb, and, pressing it hastily, the silver there is amongst it remains sticking to the thumb; and the mercury slips away in little drops. In conclusion, when they perceive, that all the silver is gathered, they carry the ore to a basin, into which a little stream of water runs, to wash

wash it, much in the same nature as I shall shew they wash the gold, excepting that this being only a mud without stones, instead of an hook to stir it, an Indian stirs it with his feet, to dissolve it. From the first basin it falls into a second, where another Indian is, who stirs it again, to dissolve it thoroughly, and loosen the silver. From the second it passes into a third, where the same is repeated, to the end that what has not sunk to the bottom of the first and second, may not escape the third.

When all has been washed, and the water runs clear, they find at the bottom of the basins, which are lined with leather, the mercury incorporated with the silver; which they call *lapella*. It is put into a woollen bag, hanging up, for some of the quicksilver to drain through. They bind, beat and press it as much as they can, laying a weight upon it, with flat pieces of wood; and, when they have got out as much as they can, they put the paste into a mould of wooden planks, which, being bound together, generally form the figure of an octagon pyramid, cut short, the bottom whereof is a copper-plate, full of little holes. There they stir, in order to fasten it; and, when they design to make many *Pinnas*, as they call them, that is, lumps of various weights, they divide them with little beds or layers of earth, which hinder their coming together. To that end the *pella* or mass must be weighed, deducting two-thirds for the mercury that is in it; and they know, within a small matter, what nett silver there is. They then take off the mould, and place the pinna or mass, with its copper base, on a trivet, or such-like instrument, standing over a great earthen vessel full of water, and cover it with an earthen cap or covering, which they again cover with lighted coals; which fire they feed for some hours, that the mass may grow violent hot, and the mercury that is in it evaporate in smoke; but that smoke having no passage out, it circulates in the hollow that is between the mass and cap, or covering, till, coming down to the water that is underneath, it condenses, and sinks to the bottom again, converted into quicksilver. Thus, little of it is lost; and the same serves several times: but the quantity must be increased, because it grows weak. However, they formerly consumed at Potosi 6 or 7000 quintals or hundred weight of quicksilver every year, as Acosta writes; by which a judgment may be made of the silver they got.

When the mercury is evaporated, there remains nothing, but a spongy lump of contiguous grains of silver, very light, and almost mouldering, which the Spaniards call *la Pinna*; and is, as I observed, a contraband commodity from the mines, because, by the laws of the kingdom, they are obliged to carry it to the king's receipt, or to the mint, to pay the fifth to his Majesty there. Those masses are cast into ingots, on which the arms of the crown are stamped, as also that of the place where they were cast, their weight and quality, with the fineness of the silver to answer the measure of all things, according to an antient philosopher. It is always certain, that the ingots, which have paid the fifth, have no fraud in them; but it is not so with the *pinnas* or masses not cast. Those who make them, often convey into the middle of them, iron, sand, and other things to increase the weight; so that, in prudence, they ought to be opened, and made red-hot at the fire, for the more certainty; for if falsified, the fire will either turn it black, or yellow, or melt it more easily. This trial is also to extract a moisture they contract in places where they are laid on purpose to make them the heavier. In short, their weight may be increased one-third by dipping them in water when they are red-hot, as also by separating the mercury, with which the bottom of the mass is always more impregnated than the top. It also sometimes happens, that the same mass is of different fineness. The stones taken from the mines, the ore, or, to speak in the language of Peru, the *mineray*, from which the silver is extracted, is not always of the same nature, consistence, or colour. There are some white and grey, mixed with red  
or

or bluish spots, which is called *plata blanca*, or white silver. The mines of Lipes are most of them of this sort. For the most part there appear some little grains of silver, and very often small branches extending along the layers of the stone. There are some, on the other hand, as black as the dross of iron, in which the silver does not appear, called *negrillo*, that is, blackish. Sometimes it is black with lead, for which reason it is called *plomo ronco*, that is coarse lead, in which the silver appears as if scratched with something that is harsh; and it is generally the richest, and got with least charge, because, instead of moulding it with quicksilver, it is melted in furnaces, where the lead evaporates by dint of fire, and leaves the silver pure and clean.

From that sort of mines the Indians drew their silver, because, having no use of mercury, as the Europeans have, they only wrought those whose ore would melt; and, having but little wood, they heated their furnaces with ylo, and the dung of llamas, or sheep, and other beasts, exposing them on the mountains, that the wind might keep the fire fierce. This is all the secret the historians of Peru speak of, as of something wonderful. There is another sort of ore like this, as black, and in which the silver does not appear at all; on the contrary, if it be wetted, and rubbed against iron, it turns red; for which reason it is called *rosicler*, signifying the ruddiness of the dawn of the day. This is very rich, and affords the finest silver. There is some that glitters like talc or isinglass; this is generally naught, and yields little silver; the name of it is *Zoroche*; the peel, which is of a yellowish red, is very soft, and broken in bits, but seldom rich; and the mines of it are wrought on account of the easiness of getting the ore: there is some green, not much harder than the last, called *cobrisso*, or copperish; it is very rare: however, though the silver generally appears in it, and it is almost mouldering, it is the hardest to be managed, that is, to have the silver extracted from it; sometimes, after being ground, it must be burnt in the fire, and several other methods used to separate it; doubtless, because it is mixed with copper. Lastly, there is another sort of very rare ore, which has been found at Potosi, only in the mine of Cotamiso, being threads of pure silver, intangled or wound up together like burnt lace, so fine, that they call it *arana*, spider, from its resemblance to a cobweb.

The veins of mines, of what sort soever they be, are generally richer in the middle, than towards the edges; and, when two veins happen to cross one another, the place where they meet is always very rich. It is also observed, that those which lie north and south, are richer than those which lie any other way. Those which are near places where mills can be erected, and that are more commodiously wrought, are often preferable to the richer, that require more expence; which is the reason, that, at Lipes, and at Potosi, a chest of ore must yield ten marks, of eight ounces each mark, of silver, to pay the prime charges: and, at those of the province of Tarama, five pay them. When they are rich, and sink downwards, they are subject to be flooded; and then they must have recourse to pumps and machines, or else drain them by those they call *cocabones*, being passages made in the side of the mountain for the water to run out at; which often ruin the owners, by the excessive expence they insensibly draw them into. There are other ways of separating the silver from the stones that confine it, and from the other metals that are mixed with it, by fire, or strong separating waters, made use of at some mines, where other means fail, and where they make a sort of ingots, which they call *bolos*; but the most general and useful method is to make pinnas or masses, above mentioned, which are preferred to other forms, on account of their easiness in making, and that they save fire, and other ingredients; which is a thing of great consequence in works of this nature, where, to save in the expence, has the same effect as finding the mine.

It is very natural to suppose, that, in mines, as well as other things, there happen great variations in their products, and in the value of the product. The mines which very lately yielded most silver, are those of Oruro, a little town eighty leagues from Arica. In the year 1712, one so rich was found at Ollachea, near Cusco, that it yielded 2500 marks, of eight ounces each, out of every chest, that is almost one-fifth part of the ore; but it has declined much, and is now reckoned but among the ordinary sort. Next to these are those at Lipes, which have had the same fate. Lastly, those at Potosi yield but little, and cause a vast expence by reason of their great depth. But, notwithstanding the mines here are far diminished in their product, yet the quantity of ore that has been already wrought, and lain many years upon the surface, is thought capable to yield a second crop; and, when I was at Lima, they were actually turning it up, and new-milling it, with great success; which is a proof, that these minerals generate in the earth like all other inanimate things; and it is likewise certain, from all accounts of the Spaniards, that gold and silver, as well as other metals, are continually growing and forming themselves in the earth. This opinion is verified by experience in the mountain of Potosi, where several mines have fallen in, and buried the workmen, with their tools; after some years, they have dug the same place, and discovered many bones, and pieces of wood, with veins of silver actually running through them. These mines belong to him who first discovers them: he immediately presents a petition to the magistrates to have such a piece of earth for his own; which is no sooner done than granted: they measure eighty Spanish yards in length, and forty over, which is about 1200 foot in length, and 100 in breadth, and yield it to the discoverer, who chuses what space he thinks fit, and does what he pleases with it. Then they measure just the same quantity for the king, which is sold to the best bidder, there being many who are willing to purchase a treasure which may prove inestimable. If any other person has a mind to work part of the mine himself, he bargains with the proprietor for a particular vein. All that such an one digs out is his own, paying the king's duty, which is for gold a 20th part, and for silver a 5th; and some landlords find such an account in letting out their ground, and their mills, that they live upon the profit.

At Copiapo there are gold mines just beyond the town, and all about the country likewise, which have brought many purchasers and workmen thither, to the great damage of the Indians; for the Spanish magistrates take away not only their lands, but their horses, which they sell to the new proprietors, under pretence of serving the king, and improving the settlements: there is also a great deal of magnet and lapis lazuli, which the Indians know not the value of: and, some leagues in the country, there is plenty of salt and saltpetre, which often lies an inch thick on the ground. About an hundred miles east, upon the Cordelier mountains, there is a vein of sulphur two feet wide, so fine and pure, that it needs no cleaning. This part of the country is full of all sorts of mines; but, in other respects, is so barren, that the natives fetch all their subsistence from Coquimbo, and that way, being a mere desert for 300 miles together; and the earth abounds so much with salt and sulphur, that the mules often perish for want of grass and sweet water. There is but one river in 200 miles, which the Indians call Ancalulae, or Hypocrite, because it runs only from sun-rise to sun-set: this is occasioned from the great quantity of snow melted from the Cordeliers in the day-time, which freezes again at night, where the cold is often so great the people's features are quite distorted. Hence Chili takes its name, Chile signifying cold in the Indian language; and we are certainly informed by the Spanish historians, that some of their countrymen, and others, who first traded this way, died stiff with cold upon their mules; for which reason the road is now always lower towards the coast.

The mine countries are all so cold and barren, that the inhabitants get most of their provision from the coast; this is caused by the salts and sulphurs exhaled from the earth, which destroy the seed of all vegetables. The Spaniards who live thereabout, find them so stifling, that they drink often of the mattea, to moisten their mouths. The mules, that trip it nimbly over the mountains, are forced to walk gently about the mines, and stop often, to fetch breath. If these vapours are so strong without, what must they be within the mine itself, where if a fresh man goes, he is suddenly benumbed with pain? And this is the case of many an one; but this distemper seldom lasts above a day, and they are not so affected a second time; but vapours have often burst out so furiously, that workmen have been killed on the spot, so that one way or other multitudes of Indians die in their calling. An observation occurs here to my memory, that upon the road to Piura, at night, when we lay down to sleep, our mules went eagerly to search for a certain root, not unlike a parsnip, though much bigger, which affords a great deal of juice, and, in such a sandy plain, often serves instead of water: but when the mules are very thirsty, and they cannot easily rake up the root with their feet, they will stand over it and bray, till the Indians come to their assistance. One would wonder, that, throughout all this part of the world, that portion of the country should be best inhabited which is most barren and unwholesome, while those spots, that seem to vie with Paradise itself for beauty and fertility, are but thinly peopled. Yet, when one considers, that it is not the love of ease, but the thirst of wealth, that draws people hither, the difficulty is very easily resolved; and we see at once, how much the hopes of living rich, gets the better of the hopes of living; as if the sole end, for which a man was created, was to acquire wealth, at the expence of health and happiness.

It is generally understood, that silver is the peculiar wealth of Peru; and the Spaniards usually talk, as to gold mines, of those that are to be found in Chili; but, notwithstanding this, there are one or two washing-places for gold in the south part of Peru, near the frontiers of Chili. About the year 1709, there were two surprising large lumps of virgin gold found in one of these places, one of which weighed thirty-two pounds complete, and was purchased by the Count de Monclod, then viceroy of Peru, and presented to the king of Spain; the other was shaped somewhat like an ox's heart; it weighed twenty-two pounds and an half, and was bought by the corregidor of Arica. To find these lavadores, or washing-places, they dig in the corners of a little brook, where, by certain tokens, they judge the grains of gold to lie. To assist in carrying away the mud, they let a fresh stream into it, and keep turning it up, that the current may send it along. When they are come to the golden sand, they turn off the stream another way, and dig with mattocks; and this earth they carry upon mules to certain basons, joined together by small channels; into these they let a smart stream of water, to loosen the earth, and carry all the gross part away. The Indians standing in the basons, and throwing out all the stones, the gold at bottom is still mixed with a black sand, and hardly to be seen, till it be farther cleared and separated, which is easily done. But these washing-places differ; for, in some, there are gold grains as big as bird-shot; and in one, belonging to the priests near Valparaiso, some were found, from two or three ounces to a pound and an half weight. This way of getting gold is much better than from the mines; here is no need of iron crows, mills, or quicksilver; so that both the trouble and expence are much less. The Creolians are not so curious in washing their gold, as the people in Europe; but great plenty makes them careless in that and many other articles.

It would be needless to attempt in this place a description of the large kingdom of Chili, because it has been already done by many authors: all that is designed here, is

to give such a representation of it, as may enable the reader to comprehend the nature of its trade, the manner in which it is connected with the general commerce of Peru, by which the wealth drawn from it is transmitted to Europe. It is in length, from north to south, about 1200 miles, the breadth of it very uncertain; the air is very temperate and wholesome, unless rendered otherwise by pestilential exhalations, that are most common after earthquakes, to which this country is very subject. The winter rains, during the months of May, June, July, and August, are excessively heavy; but then, for eight months together, they have, generally speaking, fine weather. The soil is prodigiously fertile, where it admits of cultivation; such fruit trees as are carried thither from Europe, come to the greatest perfection; so that the fruit is coming forward all the year; and it is common to see apple-trees in that situation, which we so much admire in orange-trees; that is to say, with blossoms, apples just formed, green apples, and ripe fruit all at the same time. The valleys, wherever they have any moisture, wear a perpetual verdure; and the hills are covered with odoriferous herbs, very useful in physic. There are trees of all sorts, and fit for every kind of use; inasmuch that, independent of its gold mines, Chili might be well accounted one of the richest and finest countries in the universe. And, indeed, there are some places in it, which are as beautiful as any thing the warmest imagination can paint: for instance, the town of Coquimbo, in lat.  $30^{\circ}$  south, a short mile from the sea, standing on a green rising ground, about ten yards high, which nature has regularly formed like a terrace, north and south, in a direct line, of more than half a mile, turning at each side to the eastward. The first street makes a delightful walk, having the prospect of the country round it, and the bay before it; all this is sweetly placed in a valley ever green, and watered with a river; which, taking its rise from among the mountains, flows through the vales and meadows, in a winding stream, to the sea.

But notwithstanding all these advantages, this vast country is very thinly inhabited; inasmuch that, through its whole extent, there are scarce five towns that deserve that appellation, and but one city, which is that of St. Iago; throughout all the rest there are only farms, which they call Estancias, so remote from one another, that the whole country, as I have been informed from good hands, cannot raise 20,000 whites fit to bear arms, and particularly St. Iago 2,000; the rest are all mestizos, mulattos, and Indians, whose number may be three times as great, without including the friendly Indians beyond the river Bio-bio, who are reckoned to amount to 15,000, whose fidelity, however, is not much to be depended on. The trade of this country is chiefly carried on by sea, and is at present rather in a declining than flourishing condition. The port of Baldivia was formerly very famous, on account of the very rich mines of gold that were in its neighbourhood, which are now, in a great measure, disused; so that it is only kept as a garrison, and serves in this respect to Peru, as the fortresses on the Barbary coast do to Spain, viz. to receive malefactors, who are sent thither to serve against the Indians. All the trade of that town consists in sending ten or twelve ships a-year to Peru, laden with hides, tanned leather, salt meat, corn, and other provisions, which are to be had here in great plenty.

The port of Conception is more considerable, by reason of their commerce with the Indians, which are not subject to the Crown of Spain. These Indians are of a copper colour, have large limbs, broad faces, and coarse lank hair. The nation of the Puelches differ somewhat from the rest, because amongst them there are some pretty white, and who have a little colour in their cheeks, which is supposed to be owing to their having some European blood in their veins, ever since the natives of this country revolted from the Spaniards, and cut off most of their garrisons. They preserved the women, and especially



especially the nuns, with whom they cohabited, and had many children, who have a sort of natural affection for their mothers country; and, though they are too proud to submit to the Spaniards, yet they are not willing to hurt them. These people inhabit that ridge of the mountains which the Spaniards call La Cordilera; and, as the manner of trading with them is very singular, it may not be amiss to give an account of it.

When the Spanish pedlar, or walking merchant, makes a tour into this country, he goes directly to the cacique, or chief, and presents himself before him without speaking a word: the cacique breaks silence first; and says to the merchant, Are you come? Then he answering, I am come. What have you brought me? replies the cacique. I bring you, rejoins the Spaniard, wine (a necessary article!) and such a thing. Whereupon the cacique fails not to say, You are welcome. He appoints him a lodging near his own cottage, where his wives and children, bidding him welcome, each of them also demand a present, which he gives, though never so small: at the same time the cacique, with the horn-trumpet which he has by him, gives notice to his scattered subjects of the arrival of a merchant, with whom they may trade: they come and see the commodities, which are knives and axes, combs, needles, thread, looking-glasses, ribbands, &c. The best of all would be wine, were it not dangerous to supply them therewith, to make them drunk; for then they are not safe among them, because they are apt to kill one another. When they have agreed upon the barter, they carry the things home without paying; so that the merchant delivers all without knowing to whom, or seeing any of his debtors: in short, when he designs to go away, the cacique orders payment by sounding the horn again; then every man honestly brings the cattle he owes; and, because these consist of mules, goats, and especially oxen and cows, he commands a sufficient number of men to conduct them to the Spanish frontiers. By what has been said may be observed, that as much civility and honesty is to be found among these people, whom we call savages, as among the most polite and well-governed nations.

That great number of bullocks and cows, which are consumed in Chili, where abundance are slaughtered every year, comes from the plains of Paraguay, which are covered with them. The Puelches bring them through the plain of Tapapapa, inhabited by the Pteheingues, or unconquered Indians, being the best pass to cross the mountains, because divided into two hills, of less difficult access than the others, which are almost impassable for mules. There is another, eighty leagues from La Concepcion, at the burning mountain, called Silla Velluda, which now and then casts out fire, and sometimes with so great a noise, that it is heard in the city; that way the journey is very much shortened, and they go in six weeks to Buenos Ayres. By these communications, they generally make good all the herds of beeves and goats, which they slaughter in Chili by thousands, for tallow and lard, made by trying up the fat and the marrow of the bones, which, throughout all South America serves instead of butter or oil, not used by them in their fauces: the flesh they either dry in the sun, or in the smoke, to preserve it instead of salting as is used in France. These slaughters also afford the hides, and especially the goats-skins, which they dress like Morocco leather, by them called Cordovanes, and sent to Peru to make shoes, or for other uses. Besides the trade of hides, tallow, and salt meat, the inhabitants of La Concepcion deal in corn, with which they, every year, lade eight or ten ships, of forty or fifty tons burden, for the port of Calao; besides the meal and biscuit they supply the French ships with, that take in provisions there to proceed to Peru, and to return to France. All this would be inconsiderable for so fine a country, since, if the land were well improved, it is so extraordinary fertile, and so easy to till, that they only scratch it with the plough for the most part, made

of one single crooked branch of a tree, drawn by two oxen; and, though the grain is scarce covered, it seldom produces less than an hundredfold: nor do they take any more pains in procuring their vines to have good wine; but, as they know not how to glaze the jars they put it into, they are fain to pitch them, which, together with the taste of the goats-skins, in which they carry it about, gives it a bitterness like treacle, and a scent, to which it is hard for strangers to accustom themselves. The fruit grows after the same manner, without any industry, on their part, in grafting: apples and pears grow naturally in the woods; and, considering the quantity there is of them, it is hard to comprehend how these trees, since the conquest, could multiply, and be diffused into so many parts, if it is true there were none before, as they affirm. The mines of Quilogoya and Quilacura lie within four leagues of this port, and afford vast quantities of gold; and the Estancia de Rel, or King's Farm, which is also at no great distance, is by very far the most plentiful Lavadero, or washing-place, in all Chili, where there are sometimes found lumps of pure gold of a prodigious size. The mountains of La Cordillera are reported to be a continual chain of mines, for many hundred miles together; which is so much the more probable, because, hitherto, scarce any of these mountains have been opened, but vast quantities of metals have been found in them, particularly copper, remarkably fine, of which all the artillery in the Spanish West Indies, or at least in the South Seas, are cast.

There is another considerable port in Chili, and indeed, the most considerable of them all, which is that of Valparaiso, which is esteemed one of the best harbours in the South Seas. It lies upon a river, fifteen leagues below St. Iago, the capital of Chili. To this port all the riches of the gold mines behind it, and on every side, are brought, particularly from those of Tilti, which are immensely rich, and lie between this port and the city of St. Iago. The gold here is found in a very hard stone, some of which sparkles, and betrays the inclosed treasure to the eye; but most of it has not the least sign of gold, but appears to be an hard harsh kind of stone, of very different colours, some white, some red, some black. This ore, broken to pieces, is ground in a mill, by the help of water, into a gross powder, with which quicksilver is afterwards mixed: to this paste they let in a sharp stream of water; which having reduced it to a kind of mud, the earthy particles are carried off by the current, and the gold and quicksilver precipitated, by their own weight, to the bottom: when this mud has settled a little into a sort of paste, they put it into a linen bag; strain it very hard, by which operation the mercury is driven out, or at least the greatest part of it; and the remainder they evaporate by the help of fire; so that they have all the gold together in a little wedge, like a pine-apple, and thence it derives its name of Pinna. In order to clear the gold from the silver it is first impregnated with, the lump must be run; and then they know the exact weight, and the true fineness; it is not done any otherwise there. The weightiness of the gold, and the facility of its making amalgama, or paste, with the mercury, make the dross immediately part from it: this is an advantage the gold-miners have over those of silver; they every day know what they get; whereas the others sometimes do not know it till two months after, as has been said in another place. According to the nature of the mines, and the richness of the veins, every caxon, or fifty quintals, that is, hundred weight, yields four, five, or six ounces: when it yields but two, the miner does not make good his charge, which often happens; but he has also sometimes good amends made him, when he meets with good veins; for the gold mines are, of all mines, those which produce metals the most unequally. They follow a vein, which grows wider, then narrower, and sometimes seems to be lost in a small space of ground. This sport of nature makes the miners live in hopes of finding  
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what they call the purse, being the ends of veins, so rich, that they have sometimes made a man wealthy at once: and this same inequality sometimes ruins them: which is the reason, that it is more rare to see a gold-miner rich than a silver-miner, or of any other metal, though there be less expence in drawing it from the mineral as shall be said hereafter. For this reason, also, the miners have particular privileges; for they cannot be sued to execution on civil accounts; and gold pays only a twentieth part to the king, which is call Covo, from the name of a private person, to whom the king made the grant, because they used before to pay the fifth, as they do of silver.

On the descent of this mountain, there runs, during the winter, or rather during the rainy season, a pretty brisk stream of water, which, passing through the gold ore, washes away abundance of that rich metal, as it ripens and breaks from its bed: and therefore, for about four months in the year, this is accounted one of the richest lavaderos in Chili; and very well it may, since there are sometimes found pellets of pure gold, of the weight of an ounce. At Palma, which is but four leagues from Valparaíso, there is another rich lavadero; and every where throughout the country, the fall of a brook, or rivulet, is attended more or less with these kind of golden showers, the richest of which fall into the laps of the Jesuits, who farm or purchase abundance of mines and lavaderos, which are wrought for their benefit by their servants. The soil about this port is excessive rich and fruitful; so that forty ships a year go from hence to Lima, laden with corn; and, notwithstanding their prodigious exportation, that commodity is so cheap here, where money at the same time is so plenty, that an English bushel may be bought for less than three shillings; and it would be much cheaper still, if all the country could be cultivated; but, as they have dry weather for eight months together, this is impossible, except where there are brooks or little rills running from the mountains through the vales.

But before we close this subject, it may not be amiss to observe, that there is a great trade carried on through all Chili, from the North Seas, by the way of Buenos Ayres, by which they receive some European goods, and a very large balance of silver in return for their commodities. This is, perhaps, the greatest inland commerce in the world; for the road, from Buenos Ayres to Potosí, is 1500 miles; and, though the distance from Valparaíso be not above 160 leagues more, yet it is crossed with greater difficulty than all the rest; because they are obliged to pass that chain of mountains so often mentioned, called by the Spaniards La Cordillera, which passage can be attempted only during the three first months in the year, when the passages are open, and the merchants come from Mendoza, which is an inland town, about 300 leagues from Buenos Ayres to the city of St. Iago, which lies at the opening of the passes from the Cordilleras. This journey through the mountains takes up six or seven days, though not above sixty leagues; and the passengers are obliged to carry with them not only provisions for themselves and their attendants, but provender likewise for their mules, the whole road being a continual track of rocks and precipices, and the country round about so excessively barren, and withal so exposed to snows in the winter, that there is no living in it. The journey, however, from St. Iago to the mines, and from thence to Valparaíso, is equally safe and pleasant; and the merchants have nothing to trouble them, but the fear of staying too long, and losing their passage home through the mountains; in case of which they must be obliged to stay at least nine months longer than they intended. The reader will observe, that this journey, from Buenos Ayres to Valparaíso, is directly athwart the whole continent of South America; which is a clear

clear proof of the mighty extent of the Spanish empire, which reaches here from sea to sea. On the whole, though a very great part of the country be absolutely desert; and, in some places where it is inhabited, the people do not acquire great fortunes; yet, unquestionably, the Spaniards settled in Chili acquire annually immense riches; since, as we observed before, the country is very thinly peopled, and all the gold that is drawn from the mines, or lavadores, must be divided amongst them.

Yet it is agreed, that a great part of the inhabitants do not seem to abound in wealth; which, however, may be very well accounted for, if we consider, that such as deal in cattle, corn, and the other product of the country, acquire but moderate fortunes; and such as are concerned in mines are frequently ruined, by launching into too great expences about them. But, after all, such as are easy in their circumstances, and, in consequence of that ease, retire to St. Iago, live in such a manner, as sufficiently demonstrates the riches of Chili, since all their utensils, even those that are most common, are of pure gold; and it is believed that the wealth of that city alone cannot fall short of 20,000,000. Add to this, that the gold mines are continually increasing, and it is only for want of hands that they are not wrought to infinitely more advantage, those already discovered, and neglected, being sufficient to employ 40,000 men. It may be likewise observed, that the frauds practised for deceiving the King increase daily; and, as they measure the riches of the Spanish West Indies by the standard of the King's revenue, this must necessarily make them appear poorer than they really are. We have an instance of this in the mines of Potosi, which are said to yield less silver than they did formerly; yet, on a computation for fifty years, the King's annual revenue from those mines has amounted to 220,000 pesos of thirteen rials and a quarter each; which shews that the annual produce of these mines, for which the legal duty is paid, amounts nearly to 2,000,000 pieces of eight per annum; and we may boldly assert, that the King does not receive above half of what is due: and from this example we may judge of the rest.

As the policy of the Spaniards consists chiefly in endeavouring, by all ways and means possible, to restrain the vast riches of those extensive dominions from passing into other hands, so the knowledge that other nations have of the mighty wealth of these countries, on the one hand, and of the great demand for European manufactures among their inhabitants, on the other, has excited almost every nation in Europe to practise all methods possible, in order to gain a share in them; and this with so good effect, that it is very doubtful, whether any considerable part of the riches in the West Indies centers among the inhabitants of Old Spain. This will appear very plainly to the reader, if he considers that, in the first place, the very trade carried on from Spain is of much greater consequence to foreigners, than to the Spaniards themselves; for, as there are few commodities, and scarce any manufactures in that country, the Spanish merchants at Cadiz make up their cargoes out of what they purchase from other countries; or rather, the merchants at Cadiz are barely factors for the English, French, and Dutch, whose goods they send to America, and pay them out of the returns made by the plate fleets. We are likewise to consider, that Spain itself is a country very ill provided with some of the necessaries and most of the conveniences, of life; so that prodigious sums of money are annually exported to obtain these.

But, besides such drawbacks as those we have mentioned, to which the Spaniards would willingly submit, there are many others, which they are forced to endure: for instance, all the negroes they employ in their plantations, where every kind of labour is done by these sort of people, all these negroes, I say, are purchased from foreigners, particularly

particularly the English and Dutch, at a very large expence every year. Add to this, that, under pretence of furnishing them with negroes, there is a clandestine trade continually carried on from one end to the other of their coast, upon the North Sea.

But, in the South Seas, they were pretty safe from every thing, but the depredations of pirates, till the last general war on account of the succession to the crown of Spain; which created a new kind of contraband trade, unknown to former times, I mean, that of the French interlopers, who carried vast quantities of goods directly from Europe, into the South Seas, which, till then, scarce any other nation had attempted. This was always looked upon with an evil eye by the court of Madrid, as being directly repugnant to the interest of Spain, and the maxims of their government; but, as there were many circumstances at that time which rendered this a kind of necessary evil, the Spaniards were forced to submit to it, I mean by Spaniards the inhabitants of Old Spain; for, as to the Creolians, if they had European goods, and at a cheaper rate, it would not give them much concern who took their money for them. The history of these French interlopers is, in itself, so important as well as curious, and is, at the same time, so very little known in England, that there is good reason to believe it will prove acceptable, and be well received; the rather because it is composed of such remarks, as fell immediately within my own sphere of observation, and as to the truth of which I am myself a competent witness: so that every thing may be taken for certain, that I advance. I may have leave also to put the reader in mind, that, having a great intimacy with most of the officers I mention, this enabled me to come at many particulars, which another man, in my situation, would have been absolutely unacquainted with. But to come to matters of fact:

The town of St. Malo has always been noted for good privateers: they annoyed the English and Dutch very much in their trade during the whole reign of King William, and part of Queen Anne; and though some religious-headed people fancy, that money got by privateering will not prosper, yet I may venture to say, the St. Malo-men are as rich and flourishing as any people in France. It has thriven so well with them, that all their South Sea trade is owing to their privateering; and, in the late war, they were so generous, that they made several free gifts to Lewis XIV. And though our English admiralty always kept a stout squadron cruising in the Atlantic Ocean, yet we never took one of their South Sea-men: and my reason for it is this; they kept their ships extremely clean, having ports to careen at, which we did not think of; for, in the year 1709, when I belonged to Her Majesty's ship the Loo, being one of the convoys that year to Newfoundland, we saw upon the coast a fifty-gun ship, which we chased, and soon discovered she was French built; but she crowded sail, and left us in a very little time. She had just been cleaned at Placentia: and we might well wonder to find such a ship in that part of the world; but were afterwards informed by the French prisoners, that she was a Frenchman, and bound to St. Malo, with two or three millions of dollars aboard; and was then so trim, that she trusted to her heels, and valued nobody. By their going so far to westward, and northward withal, they had the advantage of westerly winds, which seldom failed of sending them into soundings at one spirt, if not quite home. But since Placentia has been yielded to Great Britain, they now make use of St. Catherina, the island Grande on the coast of Brasil, and Martinico in the West Indies.

This trade succeeded so well, that they all fell into it, sending every year to the number of twenty sail of ships. I saw myself eleven sail together on the coast of Chili in the year 1721, among which were several of fifty guns, and one that could mount seventy, called the Flower-de-Luce, formerly a man of war. This being contrary

to the Affiento treaty between Spain and Great Britain, memorials were frequently presented at Madrid; and the king of Spain, willing to keep his engagements with England, resolved to gratify the British court, by destroying the French trade to the South Sea. His Catholic Majesty knew there was no way to do this, but by a squadron of men of war; he knew also, that few of his own subjects were acquainted with the navigation of Cape Horn, or could bear the extreme rigour of the climate; therefore was obliged to make use of foreigners for this expedition; and three of the four ships that he sent, were not only manned with, but commanded by Frenchmen. The first was the Gloucester, of fifty guns and 400 men, formerly an English man-of-war; the second was the Ruby, fifty guns, 350 men, another English ship; the third was a frigate of forty guns, and 200 men; the fourth was the Leon Franco, a Spanish man of war, of sixty guns, and 450 men, all Spaniards. Monsieur Martinet, a French gentleman, was commodore of this squadron, and commanded the Pembroke; M. le Jonquiere had the Ruby; the rest I do not recollect. The French performed their navigation well enough, and got round the Cape, though it was in the middle of winter; but the last of the four, manned by the Spaniards, after several attempts, could not weather Cape Horn, but was forced back to the river of Plate, where, at last, the ship was unfortunately cast away. It looks as if, by this expedition, an experiment was made to see if the Spaniards were hardy enough to go through this terrible navigation; but, as they have little or no trade into any cold climates, and unused to hard work, it is no wonder they failed in that point. The Biscaneers, indeed, are robust fellows enough; and, if the Leon Franco had been manned with them, she had certainly doubled the Cape with the other three ships; but the Spaniards in general, ever since acquiring their possessions in America, are grown so delicate and indolent, that it would be hard to find an intire ship's company able to perform that navigation.

The prodigious advantage of the trade of Chili this way is so manifest, that his Catholic Majesty is obliged by treaties to shut out all nations, as well as the English, though he makes nothing of it himself; and it is very rare that a Spanish ship has gone by Cape Horn: from hence arises the extraordinary price all European goods fetch at Chili and Peru. I have been told at Lima, that they are often sold at 400 per cent. profit; and, I may say, the goods that are carried from France by Cape Horn, are in themselves 50 per cent. better than those that go in the flota of Cales to Carthagena or La Vera Cruz; because the former are delivered fresh and undamaged in six months, whereas the other are generally eighteen months before they can come to Chili; so that the French, during the importing time, made their markets, furnished themselves with provision, and got home again in twelve or fourteen months time. When Martinet arrived at Chili in the year 1717, with the king of Spain's commission to take or destroy all his countrymen that were trading clandestinely, he soon found employment for his three ships, the fourth being lost, as I have observed; and of fourteen sail of St. Malo men, there was but one escaped him, she being land-locked in a little creek, where she lay hid, till she was got to leeward; after which she weighed, and came away with half her cargo unfold. Though all this was to execute the orders of his Catholic Majesty, and doing a sensible pleasure to the British South Sea Company, yet the Creole Spaniards, especially the trading part of them, found themselves almost ruined by it, because it hindered the circulation of money, and spoiled business, so that they could not bear the sight of the French men of war, though they liked the French merchantmen well enough. On the other hand, the French, imagining they had done the Spaniards effectual service, expected, no doubt, civil treatment in return, while they staid among them. But, as soon as Martinet brought his prizes into Calao, and the

Frenchmen had received their proper shares, they, forgetting the old antipathy of the Spanish to the French nation, gave themselves extravagant airs ashore, by dancing and drinking; and this still incensed the Creolians more against them, who called them cavachos and renegados, for falling foul on their own countrymen. From one thing or other, their mutual quarrels grew so high, that the Frenchmen were forced to go in parties about Lima and Calao, the better to avoid public outrages and affronts. At last, a young gentleman, who was ensign on board the Ruby, and nephew to Captain Jonquiere, was shot from a window, and the malefactor took refuge in the great church at Calao. Martinet, Jonquiere, and the other captains, joined in a petition to the viceroy, that the murderer might be delivered to justice; but the viceroy, being an archbishop, would by no means violate the rights of the church to humour any body; upon which they ordered all their men on board by public beat of drum, and brought their three ships, with their broadsides, to bear on the town of Calao, threatening to demolish the houses and fortifications, unless the assassin was delivered up or executed. All this blustering could not prevail with the viceroy to give them any satisfaction, though they had several other men killed besides that gentleman.

At last, Jonquiere, unwilling to use extremities, and no longer able to bear the place where his nephew was murdered, obtained of his commodore Martinet, that he might make the best of his way home. About this time, many fathers, and many rich passengers, were got together at the town of Conception, intending, when this squadron came by, to take their passage to Europe; for they knew, that all ships bound to Cape Horn must touch at Conception, or thereabouts, for provision: herein Jonquiere got start of his commodore, having now the advantage of so many good passengers in his ship; for, as the king of Spain has no officers at Conception to register the money shipped there, so it is unknown what vast sums those passengers and missionaries put on board the Ruby. By this opportunity, the padres and others gained two great advantages; first, they were spared the trouble of a voyage to Panama or Acapulco, and thence traversing the continent to Porto Bello, or La Vera Cruz, where they must have had their coffers visited, to see if the indulto to his Majesty was fairly accounted for; and then they saved every shilling of that indulto, or duty, because the Ruby touched first in France, where no cognizance at all was to be taken of the affair; so that as they saved one moiety of the duty payable in America, they likewise got clear of the other payable in Spain; because the ship arrived in France, where they put all the money on shore. There was on board the Ruby, besides these passengers money, a considerable sum arising to his Catholic Majesty for the confiscation of the thirteen interlopers taken by this squadron; all which together, I was well informed, amounted to four millions of dollars aboard that ship: what a fine booty then we missed through Shelvocke's obstinate conduct? For, when this same ship the Ruby found us in the harbour of St. Catherine's, Jonquiere's company, as I said before, were so insam, that he had not more than sixty sound men out of four hundred, so that he really was afraid of us, and would not even send his boat ashore to the watering-place, where we kept guard, and our coopers and sailmakers were at work, till he had first asked our captain leave; nor is this at all strange, for understanding we had a consort, he was really in pain all the time he was there, lest the Success should come in.

After Captain Martinet had cleared the coast of Peru and Chili of his countrymen, he sent express with the news to Madrid, his brother-in-law Monsieur de Grange, who came by way of Porto Bello, Jamaica, and London. Upon delivering his message, the king asked him what he should do for him: De Grange humbly begged, that his Majesty would please to give him the command of a ship to go round Cape Horn again.

He accordingly had the Zelerin of fifty guns: he came first to Calais, where the ship was getting ready; but was surprised to find a cold reception from the French merchants, and other gentlemen of his acquaintance residing there; for, as there were merchants of several nations interested in the ships taken and confiscated as aforesaid, they unanimously looked upon him, and all the French aboard that squadron, as false brethren, for serving a foreign power to the prejudice of their own countrymen; and, while he expected a valuable cargo consigned to him; being what he aimed at, he found himself quite disappointed; for no man would ship the value of a dollar with him. Captain Fitzgerald, who was then at Calais, seeing this, made him a considerable proposal, for the privilege of going his next officer, and to take aboard what goods he could procure in his own name. De Grange, being a little embarrassed, accepted the offer, and obtained at Court a Commission for him as second captain. Accordingly, they manned the Zelerin chiefly with French and some English seamen; and got very well round the Cape, when our two privateers, Success and Speedwell, were known to be in the South Sea, this same ship Zelerin was one of those ships commissioned by the Viceroy of Peru to cruise for us. Fitzgerald sold his goods at Lima to great advantage, where he continued, while De Grange served as captain under the admiral Don Pedro Miranda, who took myself, and the rest of us, prisoners. The St. Malo merchants, though great sufferers by so many confiscations, were not much discouraged; for, in the year 1720, we found the Solomon of St. Malo, carrying forty guns, and 150 men, at Hilo, on the coast of Chili, with several small Spanish barks at her stern. She sold her cargo in six weeks time, got a fresh supply of provision, and left the coast without interruption; for by this time Martinet's squadron was all come away.

The Solomon's good success gave such encouragement, that they immediately fitted out fourteen sail together; all which arrived in the South Sea in the beginning of the year 1721, three of whose commanders, having the best acquaintance among the Creolians, quickly sold their cargoes, and returned home. About this time the people of Lima judged the English privateers were gone off the coast, at least that no more hostilities would be committed, because of the truce made between the two crowns; whereupon the three Spanish men of war, fitted out to cruise on us, were ordered against those fresh interlopers. I was on board the advice-boat, called the Flying-fish, in company of the said three men of war; when they came up with the eleven sail of St. Malo all together, on the coast of Chili; and, instead of firing upon them, the Spaniards joined them like friends. The French, expecting to be attacked, kept altogether in a line, and dared the men of war to begin. This to me seemed new, that three such ships, purposely fitted for this cruise, should, on their own coast, decline doing their duty; for, had they proved too weak, they had ports of their own under their lee. In short, the men of war contented themselves to watch the others motion, keeping them always in sight; and, when any of the French ships steered to the shore, the Spaniards sent their pinnace, or long boat, with the Spanish flag hoisted, the sight of which effectually deterred the Creoles from treating or trading with the French. Thus they made shift to hinder all these ships disposing of their goods, except they were met by chance at sea, and sold some clandestinely. At length, being tired out, the Frenchmen got leave to take in provision, and went home with at least half their goods unfolded. Notwithstanding all this, and the severe edicts against it in France, I know they still continue the trade, though privately; nor is it probable they will ever leave off so lucrative a commerce, except some other power prevents it.

I shall now return to my own affairs, and the manner of my return from that part of the world; a plain relation of which will be a sufficient refutation of what Captain

Shelvocke has been pleased to deliver to the world in his book upon this subject. I have acknowledged the kind reception I met with from the admiral of the South Seas, and the reason of his treating us so civilly. In eleven months time that I continued at Lima, I think it is but justice to mention the several favours I received, particularly from Don Juan Baptista Palacio, a native of Biscay, and knight of the order of St. James, who came weekly to the prison while we were there, and gave money to all of us, according to our several degrees. Captain Nicolas Fitzgerald procured my enlargement by becoming security for me, gave me money, and furnished me with necessities thenceforward to the time of my departure; and gave not only me, but twenty more, a passage to Cadiz in a Spanish advice-boat, called the Flying-fish: Mr. Pressick, our surgeon's mate, acted as surgeon in her, receiving wages; and so did all our men, being released from prison to assist in navigating the vessel home. For my part, as I was well treated, I would not eat the bread of idleness, but kept my watches, as other officers; and, pray, where is the harm of all this? Though Shelvocke had the stupidity to call it treason; and it must appear a very malicious charge, as well as an ignorant one, that, after a man has been driven amongst the enemy, he must be called a traitor for being used kindly, and accepting his passage back again; that, because I was not murdered there, I ought to be executed at home! This is Shelvocke's great christianity and good conscience! But, to return to what I was saying:—On my arrival at Cadiz, Captain John Evers, of the *Britannia*, gave me his table, and my passage to London; where, upon my arrival, and the representation of my hardships, the following persons of honour and distinction were pleased to express their concern for my sufferings, by making me a present each of ten guineas; viz. Edward Hughs, William Sloper, and Alexander Strahan, Esquires; Samuel Winder, Beak Winder, Henry Neal, and John Barnes, merchants; Humphry Thayer, and Thomas Stratfield, druggists. This afforded me the satisfaction of seeing, that such as were the best judges, had a proper idea of the miseries I had sustained, and approved of the manner in which I behaved, the only consolation which I could receive in the circumstances in which that unfortunate voyage left me. The fair account I have given of facts, the detail of my proceedings in the Spanish West Indies, and the account of what I observed worthy of notice during my stay in those parts, will, I hope, acquit me in the opinion of every candid and impartial reader, from the aspersions thrown upon me in Shelvocke's book; and acquire me, what every man would wish to have, the approbation of him to whom, of his own free choice, he submits the censure of his actions.

AN  
HISTORICAL RELATION OF THE KINGDOM OF CHILE,  
BY ALONSO DE OVALLE,

OF THE COMPANY OF JESUS,

A NATIVE OF ST. JAGO OF CHILE, AND PROCURATOR AT ROME FOR THAT PLACE.

Printed at Rome by Francisco Cavallo, 1649, with Licence of his Superiors.

TRANSLATED OUT OF SPANISH INTO ENGLISH \*.

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*The Translator's Preface.*

WHEN the translation of the history of Chile was first undertaken, it was more out of consideration of making that part of the world, so remote from ours, better known, as to the geographical part, the natural history, and the first settlements of the Spaniards, than to enter into a distinct narrative of the events of that invasion, which contain little instruction, being between a people of great arts and abilities on one side, and another of great natural courage, and no culture of the mind or body, on the other. The case was so extravagantly unequal between them, when the odds of guns, armour, horses, and discipline, are weighed against nakedness, anarchy, panick terrors, and simplicity, that it seems a kind of prodigy that the love of liberty and a stock of natural unpolished bravery, should hold a contest with armed avarice, spirited by superstitious zeal, for almost a whole century.

The natural history of Chile is so admirably performed, that it may be a model for most relations of that kind; for there are exact descriptions of all the beasts, birds, fishes, plants, minerals, coasts, rivers, bays, and inhabitants of the country, that can be wished for. There is, besides, an excellent account of the climate, the seasons, the winds, the manner of living both of the Indians and the Spaniards. The description of the great Cordillera, or chain of mountains, which runs for almost a thousand leagues in a parallel line with the South Sea, and divides Chile from the *ultra* mountain provinces, is so accurate, that nothing of that kind can be more so: the narrative of the manner of travelling-through those vast plains of Cuyo and Tucuman, as far as Buenos Ayres, and the river of Plata; the topographical description of the streights of Magellan, with all its bays, ports, and its whole navigation, are of great instruction, as well as very entertaining.

\* From Churchill's Collection, vol. iii. third edition 1745. The importance of the countries has been more attended to than strict chronology.

In all this the jesuit, who was the author of this history, must be confessed to have deserved the character of a candid inquisitive philosopher; and in what he has performed besides, about the settlements of the Spaniards, he is very particular, especially in his description of the city of St. Jago de Chile; where any one may see the progress of priestcraft in that new world, by the vast riches of the convents, monasteries, and nunneries: but above all the instructive chapters of this treatise, there is one about the methods of driving a trade between Europe and Chile to and from the Philippines and East Indies, which contains secrets of commerce and navigation, which I wonder how they were published, and it is possible may, ere it be long, be practised by the Spaniards and other nations, if the navigation of the Mexican Gulph becomes so troublesome, as it is like to be made by the naval powers of Europe, who seem to have chose those seas for the scene of all their maritime power to exert itself in.

There is a digression about the first discovery of the islands and Continent of America by Columbus, and a progressive narration of all the other discoveries, as they were made, and by whom, which is very curious; but as it is borrowed from other writers, the author can challenge no other merit than that of a judicious compiler.

All that needs to be added to this preface, is, to let the world know that the translation was first encouraged by the Royal Society, of which the translator has the honour to be a member; and that it was two summer's work, that it might be the less subject to errors; and to prevent them, that worthy encourager of all natural knowledge, as well as of his own profession, in which he excels, Dr. Hans Sloane, has contributed very obligingly some of his care and attention.

### *The Author's Preface.*

BEING come from the kingdom of Chile into Europe, I observed that there was so little known of the parts I came from, that in many places the very name of Chile had not been heard of. This made me think myself obliged to satisfy, in some measure, the desire of many curious persons, who pressed me to communicate to the world a thing so worthy of its knowledge. But I found myself in great difficulty how to comply with their pressing instances, being destitute of all the materials requisite for such a work, and at such a distance from the place that could furnish them, that I despaired of giving a just satisfaction: however, in obedience to those whose commands I cannot but respect, I resolved to write this account, more to comply with my duty, and give some information of those remote regions, than to pretend to a perfect and exact history, which this relation, in all its parts, (I confess,) comes very short of. The reader, then, being thus prepared, will, I hope, have a regard to the little help I could have in this work, at such a distance as Rome and Chile are from one another; and by his prudence and goodness, excuse any thing that may seem less finished in this work; particularly since there is hopes of a general history of Chile, which cannot be long before it is finished.

In the mean time, the first and second books of this relation will shew the natural state of the kingdom of Chile, both as to its climate and product; the third will describe the qualities of its first inhabitants; the fourth and fifth will describe the first entrance of the Spaniards into it, and the conquest of it by them; the sixth will contain the various events of the war, caused by the noble resistance made by the Araucanos; the seventh will shew the first means of peace attempted by father Lewis de Valdivia, of the company of Jesus, in order to facilitate the preaching of the holy Gospel, and the glorious death of his holy companions; the last book, which is also the largest of all,

will contain the first means of planting the Christian faith, and its propagation among the Indians, which was particularly compassed, and is still carried on, by the missions and ministry of our company; all which endeavours of theirs I explain and distinguish under six heads, shewing the necessity of the spiritual help that those new Christians lie under, both as to preaching, and informing them of matters of the Christian faith.

I must give here five advertisements: the first, that in what I have seen myself, I have not departed from the truth in any thing I have writ: as to what I relate by hearsay, or by authority from other writers, I report it with the same candour as I heard and read it, without adding or diminishing any thing of the truth; and though all those I cite in this work are worthy to be believed, yet the least to be suspected of partiality, are such foreign writers who extol and commend this kingdom of Chile with such repeated encomiums. My second advertisement is, that considering the kingdom of Chile was the last part of South America that was discovered, and the nearest to the Antartick Pole; I could not treat of its discovery with good grounds, without touching a little upon the neighbouring kingdoms of Peru and Mexico, which were as a passage to it: and if I have enlarged now and then on the praises and description of those parts, it was because I thought it might not be disagreeable to the reader; in which, if I am mistaken, he has only to skip some chapters of the fourth book, and go directly to those which treat of the first entrance of Don Diego de Almagro into Chile. Thirdly, I must take notice, that though I do sometimes, in speaking of the land of Chile, report some particularities which seem trifles, and not so proper for history, I do not relate them as singular and proper to that country alone, but rather to shew the uniformity both of nature and customs, as to life and religion, in all those parts; and some things are mentioned to encourage those new countries to drive on the advancement of religion, politeness, learning, and good morals.

Fourthly, I must take notice, that since I do not here make a general history of Chile, I have not had occasion to mention all the illustrious men, and noble commanders and soldiers who have flourished in those parts from the beginning of the conquest: I only, therefore, take notice of such as I find named in the authors whom I cite; and they too not making it their business to write a distinct history of Chile, but only to relate some particular event, and so mention only some part of the government of some governors, or their wars, cannot be exact in the account of all those who have in different times and occasions acted in those wars; and by this salvo I cover the honour of all our gallant commanders and soldiers of Chile, whose actions I omit, though they are worthy to be graven in marble or bronze, only for this reason. And though I own, that I am not ignorant of many who have flourished in my time, and before it, yet I have not so distinct an information as would be necessary to give them their due commendations, and set their actions in that light which their valour deserves; therefore the general history of Chile will perform that part. Perhaps, even before that, this work of mine may excite somebody to employ their talent in making a particular book of their eulogiums and praises, which cannot fail of being well received in the world, since so many noble and illustrious families of Europe will be concerned in it.

Lastly, I advertise, that though the principal motive of my writing this relation, was to publish the spiritual ministry of our company in the conversion of souls in this kingdom of Chile, yet I could not but treat first of the land and inhabitants, as being the object and subject of their endeavours; and I have been forced to be more

diffuse in it, than I would have been about a place already known to the world by any history or relations made of it. For this reason, I have employed six books in the description of the land, and the valorous fierce disposition of its inhabitants, that the force and efficacy of the divine grace might shine out the more in the beginnings of the conversions of that untractable nation, mentioned in my two last books, which are almost as comprehensive as my six first, which were divided into so many, only to answer the diversity of matter which they contain.

Thus I have informed my reader of this work, in which he will find variety of entertainment. Some things will answer the curiosity of those who delight in knowing natural causes; others will be moved and incited to valiant actions by the examples of those performed here. Those likewise, who love historical relations, will be pleased, since here is an epitome of the discovery of the best part of the Indies, according to the order of times, and persons concerned in the conquests and discoveries of so many kingdoms; and, lastly, the pious disposition of devout minds will be elevated to praise God for the signal favours, which the queen of heaven has bestowed on the kingdom of Chile in particular; and adore the Lord of all things, for having in little more than one century made his name known, and his worship introduced among so many heathen nations, even to bring the untamed and powerful Araucanos upon their knees to him, after so many years stubborn resisting the entrance of the Gospel. I cannot desire my reader to express any acknowledgments for this work of mine, because I do not judge it deserves so great a reward; but I hope he may, with indulgence, excuse its faults, and make me some allowance for the little helps I have had in writing. I have endeavoured to please all; but, particularly, to shew how the kingdom of Christ may be advanced in that new world, if the apostolical zeal of the evangelical workmen will employ itself in this great harvest of so extended a gentilism and new Christianity.

TO THE READER.

THE first six books being the only ones that contain the historical and natural accounts, they alone are translated; and some chapters even out of them omitted, for their tedious superstitious narratives.

BOOK I.

OF THE NATURE AND PROPERTIES OF THE KINGDOM OF CHILE.

CHAP. I. — *Of the Situation, Climate, and Division of the Kingdom of Chile.*

THE kingdom of Chile, which is the uttermost bounds of South America, and has the kingdom of Peru to the north, begins at the 25th degree of south latitude, towards the antarctick pole, and is extended in length five hundred leagues, as far as the straits of Magellan, and its opposite land, called La Tierra del Fuego, which reaches to the 59th degree. The breadth of Chile is various; for it may be said to extend itself one hundred and fifty leagues east and west, because though that which is properly called Chile, is not in many places above twenty or thirty leagues broad, which

is generally its extent from the sea to the famous Cordillera Nevada, or chain of mountains covered with snow (of which we shall speak in its proper place,) yet in the division of the bounds of the several governments of America, the king added to Chile those vast plains of Cuyo, which run in length as far as Chile does, and are above twice as broad.

The opposite part of the world to this kingdom, is the meridian that passes between the island Taprobana of the ancients, which is Zeilon, and Cape Comorin, beginning at twenty-six degrees north of the equinoctial line. The inhabitants are properly antipodes to those of Chile; and those who inhabit the countries that reach from thirty-seven degrees to forty-four of the most westerly parts of New Guinea, would be also diametrically antipodes to the inhabitants of Castille; but it is yet uncertain, whether that part of the world is land or water; but this is certain, that it falls out in the division of Castille, and is opposite to it, and is west from Chile one thousand seven hundred leagues.

This kingdom is comprehended in the third, fourth, and fifth climate: in that part of it which is in the third climate, the longest day is thirteen hours; and in the fifth climate, the day at longest is about fourteen hours, and something more, quite contrary to Europe, as being opposite to it, but not diametrically; for the longest day in Chile is St. Lucia's, and the shortest St. Barnaby's; the sun is always there towards the north, and the shadows to the south.

This is the situation of the kingdom of Chile, which borders upon the north with the province of Aracama, and the rich mines of silver of Potosi, where the kingdom of Peru begins; and on the south it has the great sea to the pole, and the islands discovered in it. Abraham Ortelius was of opinion, that there was on this south side of the kingdom of Chile, a land which was contiguous with New Guinea; and this opinion lasted till we were undeceived by those who having passed by the strait of St. Vincent, otherwise called the strait of Le Maire, went round that south land called the Tierra del Fuego, and returned to the north sea by the straights of Magellan; proving evidently the said land to be an island, entirely separated from any other land; as I shall shew further in its proper place.

Chile has on the east Tucuman and Buenos Ayres, and to the north-east Paraguay and Brasil; to the west it has the South-Sea, which, according to the opinion of Antonio de Herrera, is all that is comprehended between Chile and China, and begins at the Golden Chersonesus, or the island of Sumatra; and that sea is in breadth, east and west, two thousand seven hundred leagues.

According to what has been said, we may divide this kingdom into three parts: the first and principal is that which is comprehended between the Cordillera Nevada and the South-Sea, which is properly called Chile. The second contains the islands which are sowed up and down upon its coast as far as the straights of Magellan. The third contains the province of Cuyo, which is on the other side of the snowy mountains, called the Cordillera Nevada, and run in length all along as far as the straights, and in breadth extends to the confines of Tucuman.

To begin then with that part which is most properly called Chile: I confess I had rather the description of it had fallen to the lot of some stranger who had seen it; for then the danger of passing for too partial for one's own country, (to which are exposed all those who write of it) would have been more easily avoided, and such an one might with less apprehension enlarge upon the excellent properties which God has been pleased to endow it with. The common opinion of all those who have come from Europe to it, is, that its soil and its climate exceed all others they have seen; though, perhaps, in that

that they only make a return for the kind welcome they all meet with in those parts. As for my part, all I can say, is, that though it be like Europe in every thing, except in the opposition of the seasons, which are transposed, it being spring and summer in the one, when it is autumn and winter in the other, yet it has some properties which do really singularize it, and deserve the praises given it by travellers; for, first, neither the heat nor the cold are so excessive as in Europe, particularly as far as the 45th degree of latitude, for from thence to the pole the rigorous and excessive cold begins.

The accidental situation of the land of Chile, must be the cause of this temperature of the air; for being covered on the east by the high mountains of the Cordillera, which are all so prodigiously elevated, it receives the fresh and cooling breezes from the sea; and the tides which penetrate as far as the foot of the mountains, joining with the coolness of the snow, with which they are covered, refresh the air so, that about four o'clock in the afternoon the heat is no ways troublesome. Nay, if one is in the shade, one may say, that in no hour of the day the sun is insupportable, especially from thirty-six degrees, or thereabouts, neither day nor night the heat can be complained of; which is the cause, that at the town of the Conception, which is in that situation, the covering for beds is the same winter and summer, neither of those seasons being any ways troublesome.

Another good quality of this country is, to be free from lightning; for though sometimes thunder is heard, it is at a great distance up in the mountain. Neither does there fall any hail in the spring or summer; or are those storms of thunder and lightning seen here, which in other parts make the bells be rung out, and the clouds to be exorcized; neither are there so many cloudy days in winter as in other parts; but most commonly after the rain has lasted two or three days, the heavens clear up, and look as if the sky had been washed, without the least cloud, in a very short time after the rain; for as soon as ever the north wind, which brings the cloudy weather, ceases, the south succeeds, and in a few hours drives away the rain; or if it be in the night-time, the dew falls, and the sun rises brighter than ever.

This country is yet to be valued upon another propriety of it, which is, that it is free from poisonous creatures, such as vipers and snakes, scorpions or toads; so that one may venture to sit under a tree, or lie down and roll on the ground, without fear of being bit by them. Neither are there tygers, panthers, or any other mischievous animals, except some lions of a small kind, which sometimes do harm to the flocks of sheep or goats, but never to men, whom they fly from; and this is not only in the cultivated land, where men are frequent, but in the woods and solitude, and in the thickest groves, of which there are some so close with trees, that one can hardly break through them afoot. I heard a friar of ours, who was an excellent builder, say, that having gone for three months together in woods, where there was no sign of any one's having passed before, to find out trees proper for the timber of the church of St. Jago, he had never met with the least poisonous creature that could either cause a nauseous idea, or a dangerous effect.

There is another most wonderful singularity of this same country, which is, that not only it does not breed, but will not suffer any punaizes, or bugs, to live in it; which is the more to be admired, that on the other side the mountains they swarm. I never saw one in it alive, for sometimes there are some in the goods and furniture of people who come from the province of Cuyo; but as soon as they feel the air of Chile they die. The experience that was made of this, by one that was either curious or malicious enough, was wonderful; for coming from Cuyo to Chile, he brought some of those creatures with him, well put up in a box, and such food provided for them as to

keep them alive ; but no sooner were they come to the valley of Aconcagua, which is the first valley coming down from the mountains, but they all died, - not so much as one remaining alive.

I do not say any thing here of the mines of gold, nor of those excellent waters which running from them, are cordial and healthy ; nor of the abundance of provisions for life, nor of the physical plants, nor of many other rare qualities in which this country exceeds others, as well to avoid confusion, as because those things will be better shewed when we come to treat of each of them in particular in their proper place.

In all other things the land of Chile is so like Europe, both in climate and soil, that there is very small or no difference ; and it is very remarkable, that in such variety of discoveries made in America, none is so conformable in every thing with the European constitution, as this tract of Chile ; for in most of the places between the tropicks, as Brasil, Cartagena, Panama, Portobello, and those coasts in that situation, the heats are violent, and continual all the year ; and in some other places, such as Potosi, and the mountains of Peru, the cold is as excessive ; in some they have a winter without rain, and have their rain in summer, when their heat is highest ; others there are, where they have neither wine, oil, nor wheat of their own product ; and though in some they may have these productions, yet the other fruits of Europe do not take with them ; but Chile has, just as Europe, its four seasons, of spring, summer, autumn, and winter ; it does not rain in summer, but in winter ; and all the product of Europe agrees with their soil.

One thing is much to be admired, and that is, that the land of Cuyo, that of Tucuman, and Buenos Ayres, being all in the same latitude with Chile, are nevertheless so different in climate from it and from Europe ; for though in those parts it freezes exceedingly, so as to freeze water within doors, and that their cattle, if left abroad, die with cold, yet there does not fall a drop of rain all the winter, and the sun shines out so bright and clear, that not a cloud is to be seen : but in the spring they have such abundance of rain, that it would drown the whole country, if the showers lasted as long as in Europe or in Chile ; for when the rain lasts but an hour and a half, the streets are full of streams in the towns, and the carts are up to their axle-trees, though they are very high in those parts, and all the country is as it were a sea : there fall likewise at that time thunder-stones, and hail as big as a hen's egg, nay, as geese eggs, and sometimes as big as ostriches ; as I myself have seen.

All these storms and varieties of weather form themselves in the high mountains, that are a kind of wall to the kingdom of Chile ; and they never come so far down as to invade its territories, but stop at them like a barricado ; for in Chile the weather is always steady and constant, without sudden changes, all the spring, summer, and autumn ; in winter, indeed, there are degrees of heat and cold, as there is a difference in the length and shortness of the days, according to the degrees of the latitude, and course of the sun, which causes the same variation as in Europe, though in opposite months.

From hence it follows, as authors do observe, and experience teaches, that there must be, - and is, a great resemblance between the animals and other productions of Chile and those of Europe. As a proof of this, I have seen several gentlemen that came to Chile from other parts of America, either as commanders, or for other employments, which are in the king's disposal, incredibly overjoyed at this conformity with Europe ; for they think themselves, as it were, in their native country, the air and the provisions of both so like in their qualities : the meats are more nourishing than in hot-

ter climates ; and when those who have been either born or bred in those hot countries come to Chile, they are forced to abstain, and keep a watch upon their appetites, till their stomachs are used by little and little to the strength of the food of that country, and can digest it.

CHAP. II.—*Of the four Seasons of the Year, and particularly of the Winter and Spring : with a Description of some Flowers and medicinal Plants.* --

THE four seasons of the year which are in Europe, the spring, the summer, the autumn, and the winter, are with the same duration of time enjoyed in Chile, though not exactly under the same names, at the same time ; for the spring begins about the middle of the European August, and lasts to the middle of November ; then begins the summer, which holds to the middle of February ; which is followed by the autumn, which lasts to the middle of May ; and then the winter enters, and makes all the trees bare of their leaves, and the earth covered with white frosts, (which nevertheless dissolve about two hours after sun-rise, except in some cloudy days, that the fogs last from one day to another ;) the winter ends again about the middle of August. It is very seldom that the snow falls in the valleys or low grounds, though so great a quantity is upon the mountains, that it fills up sometimes all the hollow places to the height of several pikes, and there remains, as it were, in wells and reservoirs, to provide, as it does in due time, so many springs and rivers with water, so fertilizing the valleys and plains, that they produce infinite crops of all sorts in the autumn, and enrich the kingdom. But notwithstanding that it seldom snows in the valleys and plains, yet it is so cold in them, that few parts in Europe are colder ; which proceeds not only from the degree of elevation this land is in, but also from its neighbourhood to those vast mountains called the Cordillera, which send out such sharp and piercing winds, that sometimes they are insupportable ; therefore the sea-coast is much more temperate and warm ; but in return much more exposed to vehement tempests of winds, than the inland parts, where these storms are in some measure spent before they reach them, and so cannot whip them and torment them as they do the sea-coasts.

For some protection against these sharp cold winds, God Almighty has placed several great clusters of thorn-bushes, which thrive so well, that it is the ordinary fuel of all the countries about the town of St. Jago, and the valleys near it. It is a plant not unlike an oak, though more durable ; the heart of the wood is red, and incorruptible ; of it they make coals for the furnace, and other shop uses. In other parts the true oak serves for the same purpose ; as the territory of the city of Concepcion, where there are very large woods of them, which are so thick, that though they have already served for the uses of the natives so many years, yet when they are entered they can hardly be passed in the middle ; and this within half a league of the city ; for further up in the country there are forests, where no man every set his foot.

Though these oaks, as also the fruit-trees, lose their leaves in winter, yet there are wild trees which do not, though all covered with ice and snow ; and the cold is so far from injuring them, that when the sun melts the frost, they look brighter and more beautiful. As soon as the first rains come, the fields begin to be clothed in green, and the earth is covered in twenty or thirty days with grass ; amongst which nature produces a sort of yellow flower in such abundance, that the plains and valleys look like carpets of green and yellow.

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These first rains seem to prepare the earth for its ornamental dress of flowers with the spring, which begins about the middle of August; and they last till December, that the heats come in, and that with such variety and abundance of so many kinds, that the fields look as if they had been painted, producing a most delightful object. I remember once, as I was travelling, I saw so great a diversity of these flowers, some scarlet, others blue, yellow, red, straw-colour, purple, &c. that I was moved to tell them, and I told in a short time two and forty sorts, so admirable was their variety; and yet I do not reckon among these the cultivated ones in gardens, nor those that were brought from Europe, such as carnations, roses, stock gilly-flowers, orange, lillies, poppies, lupins, &c. I only speak of those that grow wild, which are so odorous and sweet-scented, that it is out of them they distil a water called *aqua d'angeles*, or, angel's water. The smell of these flowers is perceived sweetest at the rising and setting of the sun; which, mingled with the scent emitted by the herbs, which are very aromatic, produce a most admirable perfume, and for that reason they put the sprouts and tops of them amongst the flowers which make the angel water.

It is scarcely possible to express the force with which the earth puts forth these plants, which is so great that in many places it is hard to distinguish the cultivated from the uncultivated lands. One would think at first that all had been plowed and sowed alike; and with the continuance of the rains, the grass runs up so strong, and grows so intricate, that a horse can hardly break through it, it coming in most places to the saddle girths.

Mustard-feed, turnips, mint, fennel, trefoil, and other plants, which I see are sowed and cultivated in Europe, for the just esteem that is made of them, do all grow wild in Chile, without serving to the use of life at all, otherwise than by the cattle's feeding on them, which they may do for several leagues together. The mustard-plant thrives so mightily, that it is as big as one's arm, and so high and thick, that it looks like a tree. I have travelled many leagues through mustard-groves, which were taller than horse and man; and the birds build their nests in them, as the gospel mentions in these words, *ita ut volucres celi veniant et habitent in ramis ejus*; so that the birds of the air come and lodge in the branches thereof.

There are many plants of great virtue in physic, and known only to the Indians, called Machis, who are a race of men who are their doctors. These plants they conceal carefully, and particularly from the Spaniards, to whom if they communicate the knowledge of one or two, it is a great mark of their friendship; but the knowledge of the rest they reserve, and it passes from father to son. These Machis, or doctors, are not only esteemed by the Indians, but by the Spaniards themselves, who have recourse to them in the greatest extremities, when the disease presses most. They find wonderful effects from the application of these simples, which they use in a lesser dose with the Spaniards than with the Indians, who are of a more robust nature, and stronger constitution.

I saw one of our order much troubled with the falling sickness and swooning fits, so as he was forced to have always some body in his company, or else he might have fallen down stairs, or otherwise killed himself: he had used all the remedies that the learning of physicians and the charity of religious men could suggest, but without any effect at all: nay, he was worse and worse every day. Our fathers learned at last, that about twelve leagues off from that place there lived an Indian Machi: they sent for him: and being come, and having heard the relation of his distemper, he gave him as much of a certain herb in wine as the bigness of a nail; and it had so great an effect, that it took

took away the distemper, as if he had taken it away with his hand, the person being never troubled with it more, all the time I knew him.

I have seen many other cures performed by these Machis, particularly in cases of poison; for in that sort of distemper they are very eminent. I shall mention but one instance, of a gentleman who had been pining away for several years, and often at death's door: once, being in extreme danger, he heard of a famous Machi who lived a great way off, but was a she-doctor, (for there are women amongst them eminent in the art :) he procured, by presents, to have her sent for; and having promised her a considerable reward, besides what he gave her in hand, which he was well able to perform, being very rich and powerful, she began to apply her remedies, which were herbs; and one day, when she saw his body prepared to part with the poison, she caused a great silver vider to be set in the middle of the room, and there, in the presence of many people, the gentleman having first been very sick in his stomach, he cast up the poison which had been given him many years before, wrapp'd up in hair, which came up with it; and he was perfectly well after this, as he himself related to me.

Though, as I have said, the Indians are so close in keeping secret the herbs they use, yet many of them, persuaded by reason, and induced by friendship, do communicate something: and time and experience has discovered so many more, that if I should mention them all, I should be forced to make a book on purpose of them; therefore I shall only mention three that I have more present in my memory, the effects of which are prodigious.

The first shall be a famous plant called Quinchamali, which rises not a foot above the ground, and its branches spread like a nosegay, and end in little flowers at the points, which, both in colour and in shape, are not unlike the saffron called Romi. They pull up the herb, and boil it entire, with its roots, leaves, and flowers, in fair water, which is given to the patient to drink hot: amongst other effects it produces, one is to dissolve all coagulated blood in the body, and that very quickly; so that an Indian feeling himself wounded, takes it immediately, to hinder the blood that could not come out at the wound from congealing inwardly, and so prevents all imposthuration, and the corruption of the rest.

There happened in our college of St. Jago an accident, which gave proof of this admirable herb; which was, that an Indian belonging to us being gone to the great place to see the bull-feast, a bull, to his great misfortune, caught him up, and tossed him in the air, and left him almost dead on the spot; he was brought to our house, and the physician, being called, said he was a dead man, and nothing could save him: but, however, he told the father that has care of the sick, that it would cost but little to give him the Quinchamali, wrap him up warm, and leave him alone some hours. It was done accordingly; and after some time, the father resorting to the place where they had laid him, to see if he was dead, he was found not only alive, but out of danger, and the sheet all full of blood, which the herb had caused him to void through the pores of his body, so as he remained perfectly well in a little time.

The second herb is that which we Spaniards call Albacquila, and the Indians Culen, because its leaves are like the leaves of sweet basil: it grows in bushes so high, that they seem to be trees; the leaves are very fragrant, and sweet like honey: being bruised, it is applied to the wound outwardly, and some drops of its juice are to be poured also into the wound; after which, most admirable effects of its efficacy are seen.

I was told by Captain Sebastian Garcia Carrero, the founder of our novitiate-house of Bucalemo, that as he was travelling with a dog in his company, which he loved extremely

tremely, some wild-monkeys that live in the mountains fell upon him, and so worried him among them by biting him, some on one side and some on the other, that they left him full of wounds, and particularly with one large one in his throat: his master came up at last, and found him without sign of life; he was much troubled for the loss of his dog, and lighted to see what he could do for him. This Albaaquilla, is an herb that grows every where in the fields; and the gentleman, at a venture, gathering three or four handfuls of it, bruised them between two stones, and poured the juice into the dog's wounds, and into the great one of his throat he thrust a handful of it, and so left him without hopes of life: but it fell out wonderfully, that after a few leagues travelling on, turning back to look at something, he saw his dog following at a distance, who was so well cured that he lived many years after.

The third herb, that I remember, is like a knot of fine hair, and which is not commonly met with: this is an admirable herb in fevers and pleurifies; it is boiled in water, and drank; it purifies and cleanses the blood, expelling that which is bad, and so the sick body remains perfectly cured; as I myself have had the experience of it.

There are several other plants, some of which cure the pains of the liver; others dissolve the stone in the bladder, and break it to pieces; some are excellent for the sciatica and other infirmities; all which, if I were to relate in particular, I should make a new *Dioscorides*, or herbal, which is not my intention. We will therefore leave the flowers and herbs of the spring, the harmony of the singing of birds, which so rejoices the mornings, and the serene and quiet days of this season, to draw near the summer; which will afford us matter of discourse.

### CHAP. III.—Of the Summer and Autumn, and their Product.

THE summer begins in the middle of November, and lasts to the middle of February, so that the greatest heats are at Christmas; and we are forced to have recourse to our faith, to consider the child God trembling with cold in the manger; for when we rise to sing matins, particularly in Cuyo and Tucuman, where the heats are excessive, we are ready to melt with heat. In Chile the heats are not so excessive, because the country is more temperate; but still the weather is not so cold as it was in Bethlem. About this time the fruits begin to ripen, which are in great variety; and there are but few of those of Europe that are wanting; for as soon as any of them are brought, either in stone, seed, or plant, they take, and it is wonderful to see how they thrive. I remember about thirty years ago there were no cherries; there coming by chance a little tree from Spain, from which all the curious began to multiply them in their gardens, (it being both a rarity, and a valuable fruit;) in a small time they were so increased, that they were banished from the gardens to the fields, because they produced so many young plants from their roots, that they took up all the ground about them.

Of the fruits of Peru, Mexico, and all the continent of America, not one will grow in Chile; and the reason is, the opposition of the climate of Chile; nay, though they bring either plant, seed, or setting, they never thrive; for those countries are within the tropics, and Chile is out of them; for which reason also the fruits of Europe take so well in Chile, such as pears, apricots, figs, peaches, quinces, &c. which bear infinitely; and if there is not care taken to lessen their number when little, it is impossible for the boughs to bear the weight of the fruit, so that they are fain to prop them up with forks when they grow near ripe.

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The fruit that exceeds all the rest for bearing is the apple, of all kinds, of which there are prodigious orchards; and of these, though they lessen the number, yet the others increase so much in weight, that the trees are brought down to the ground; so that there are many windfalls, filling all the ground about them, and the very rivers on which they stand, and stopping the course of the water.

All the crops of oats, wheat, maize, and all other garden product, begin to be cut in December, and so on to March; and they seldom produce less than twenty or thirty for one, nay, some a hundred for one, and the maize four hundred for one; and it is very seldom that there is any scarcity of grain, but it is very cheap most commonly.

As for the fruit of the gardens, it is never or rarely sold, but any body may, without hinderance, step into a garden or orchard, and eat what they will; only the strawberries, which they call *Frutilla*, are sold; for though I have seen them grow wild for miles together, yet, being cultivated, they are sold very dear: they are very different from those I have seen here in Rome, as well in the taste as in the smell; and as for their size, they grow to be as big as peers, most commonly red; but in the territory of the Conception, there are of them white and yellow.

About this time, also, the herbs that fatten the cattle grow ripe; and then they begin to kill them with great profit, it being the chiefest riches of the country, by reason of the tallow and hides which are sent for Peru. They kill thousands of cows, sheep, goats; and the flesh, being so cheap that it is not worth saving, they throw it away into the sea or rivers, that it may not infect the air; only they salt the tongues and loins of the cows, which they send for Peru as presents for their friends; and they who are able, and understand it, send likewise some dried salt-flesh for the king's forces, or keep it to feed their own slaves or servants.

Autumn begins about the middle of February; so Lent proves the most delicious time of the year; for besides lobsters, oysters, crabs, and other sorts of shell-fish and sea-fish of all kinds, they fish in the ponds and rivers for trouts, *Vagres*, *Pejereges*, and other very choice river-fish of several kinds; and at the same time there is a great plenty of legumes, and garden product, as gourds, all sorts of fruit, particularly quinces, which are as big as one's head, and another kind called *Lucumas*, of which they make so many dishes, that the mortification of fasting is hardly perceived.

In the end of autumn, they begin to gather the olives and the grapes; and this lasts the months of May and June. The wines are most noble and generous, and famed by the authors who write of this country: there is such plenty of them, that the plenty is a grievance, there being no vent for such quantities: it kills the Indians, because when they drink, it is without measure, till they fall down; and it being very strong, it burns up their inward parts: the best kind is the *Muscatel*. I have seen some that look like water; but their operation is very different in the stomach, which they warm like brandy.

There are white wines also very much valued; as those of the grape called *Uba Torrontes*, and *Albilla*: the red and deep-coloured are made of the ordinary red grape, and the grape called *Mollar*. The bunches of grapes are so large, that they cause admiration; particularly I remember one, which, because of its monstrous bigness, was by its owner (a gentleman) offered to our lady's shrine: it was so big as to fill a basket, and to feed the whole convent of friars for that meal, and they are pretty numerous. The branches of the vines are by consequence very big, and the trunk or body of them is in some places as thick as a man's body; and no man can compass with extended arms the heads of them, when they are in full bloom.

**CHAP. IV. —** *Of the natural Riches of the Kingdom of Chile ; which are its Mines of Gold, and other Metals ; as also of the industrious Management of its other Product.*

THE riches of Chile are of two sorts : first, those which nature has bestowed on it, without the help of human industry ; and, secondly, those which have been produced and invented by the inhabitants, to improve and enjoy its fertility. To the first kind belongs its mines of gold, silver, copper, tin, quick-silver, and lead, with which heaven has enriched it. Of the copper of Chile are made all the great guns for Peru and the neighbouring kingdoms, in the garrisons of which there are always stores, particularly on the coasts : all the bells of the churches, and utensils for families, are of this metal ; so that since the working of these mines, no copper has come from Spain ; for the Indies are sufficiently supplied by them with all they can want.

There is little lead worked, because there is little use of it ; quicksilver less, because the mines are but newly discovered ; and as they were going to work them, the obstacle to those of Guancabilla in Peru was removed, and so there was no need of working those of Chile. Those of silver likewise lie unwrought, because the golden mines are of less charge, and so every body has turned their industry towards them : they are so many, and so rich, that from the confines of Peru to the extremest parts of this kingdom, as far as the straits of Magellan, there is no part of the country but they discover them ; which made father Gregory of Leon, in his map of Chile, say, that this country ought rather to have been called a plate of gold, than to go about to reckon up its golden mines, which are innumerable.

All the authors who have writ of this country, do mightily enlarge upon its riches ; and the same is done by all those who have navigated the straits of Magellan. Antonio de Herrera, in his general history of the Indies, says, that in all the West Indies, no gold is so fine as that of Voldivia in Chile, except the famous mine of Carabaya ; and that when those mines were first worked, (which was before those Indians who are now at peace with us were at war,) an Indian among them did use to get from them every day 20 or 30 pesos of gold, which comes to near 500 reals of plate, and was a wonderful gain.

And the already-cited John and Theodore de Brye say, that when the Nodales passed the straits of St. Vincent, otherwise called straits of Le Maire, there came some Indians from the country called La Tierra del Fuego, who exchanged with the Spaniards a piece of gold of a foot and a half long, and as broad, for scissars, knives, needles, and other things of little value ; for they do not value it as we do. Other authors say, that most of the gold that was laid up in the Inca's treasure, was brought to him from Chile, though having never subjected the Araucanos, he could not have that quantity which this rich country would else have afforded.

But what need I weary myself in citations of people abroad, when those who live in the country of Chile, and see it every day, are the best testimony of the great riches that the Spaniards have drawn from these mines ; which was so great, that I have heard the old men say, that in their feasts and entertainments, they used to put gold-dust in their salt-fellers instead of salt ; and that when they swept the house, the servants would often find grains of gold in the sweepings, which they would wash out, for the Indians being the persons that brought it to their lords, they would often let some fall.

I have said before, that it was much more easy to get gold than silver out of the mines, because this last costs much pains ; first, to dig it from the hard rock, then to beat

beat it in the mills to powder, which mills are chargeable, as is also the quicksilver, necessary to be used to make the silver unite, and all the rest of the operations requisite to refine it; but the advantage of getting gold has no other trouble in it, than to carry the earth in which it is found to the water, and there wash it in mills on purpose, with a stream which carries off the earth; and the gold, as being heaviest, goes to the bottom.

It is true, that sometimes they follow the gold vein through rocks and hard places, where it grows thinner and thinner, until at last the profit that arises is very small; yet they persist to follow it, in hopes it will grow larger, and end at last in that which they call *Bolsa*, which is, when coming to a softer and easier part of the rock, the vein enlarges so, that one of these hits is enough to enrich a family for all their lives. There is now less gold found than formerly, by reason of the war the Spaniards have had with the nation of Araucanos; but still some is found, particularly in Coquimbo, where, in the winter, when it rains much, is the great harvest of gold; for, by the rain, the mountains are washed away, and the gold is easier to come at. There is likewise some gold in the territories of the Conception; in which I was told, by a captain who entered into our society, that there was, not above half a league from the town, a pond, or standing-water, which is not deeper than half the height of a man; and that when the Indians have nothing to spend, they send their wives to this pond; and they going in, feel out with their toes the grains of gold; and as soon as they have found them, they stoop and take them up. They do this until they have got to the value of two or three pesos of gold; and then they seek no longer, but go home, and do not return for any more as long as that lasts; for they are not a covetous people, but are content to enjoy, without laying up.

I brought with me to Italy one of these grains thus found, of a pretty reasonable bigness; and sending it to Seville to be touched, without either putting it in the fire, or using other proofs, it was allowed to be of twenty-three carats, which is a very remarkable thing. Now the peace is made, and the warlike Indians quiet, the Spaniards may return to search for the gold of Valdivia, and other mines thereabouts, which will extremely increase the riches of the country.

As for the product made by the industry of the inhabitants, it consists particularly in the breed of their cattle of all kinds, as I have observed above; sending the tallow, hides, and dried flesh, for Lima; where, having first retained the necessary proportion for themselves, which is about twenty thousand quintals of tallow every year for that city, and hides accordingly, they distribute the rest all over Peru: the hides, particularly, are carried up to Potosi, and all that inland tract of mines, where most of their clothing comes from Chile; they are also carried to Panama, Carthagena, and the rest of that continent; some of this trade extends itself likewise to Tucuman and Buenos Ayres, and from thence to Brasil.

The second product is the cordage and tackling, with which all the ships of the South Seas are furnished from Chile; as also the match for fire-arms, with which all the king's garrisons along the coast are provided from those parts; for the hemp, which makes the first material of all these provisions, grows no where in the West Indies but in Chile: there is also packthread exported, and other smaller cordage.

The third product is mules, which are sent to Potosi, through the desert of Arcama.

The fourth product is the cocoa-nuts, which are the fruit of the palm-trees; and do not, indeed, proceed from industry, but grow wild in the mountains, without any cultivation, so thick, that I have seen several leagues of this tree. Almonds likewise, and the product of gardens, which do not grow in Peru, are carried thither with great profit,

profit, so as to be able to set up a young beginner. When I came to Lima, I observed that the anniseed, which had been bought at Chile for two pieces of eight, was sold there for twenty; and the cummin seed, bought at twenty, was sold for fourscore; which makes merchants very willing to trade to those parts, as hoping to grow rich in a small time; and this increases the riches of Chile, by drawing every day thither men with good stocks. The gains made this way are so considerable, that a man who has about forty thousand crowns to employ in land, flocks, and slaves, to take care of them, may every year have a revenue of ten or twelve thousand crowns, which is a gain of twenty-five per cent. very lawful, and without any trouble to one's conscience, or subjection to the dangers of the seas; for those who will run the hazards of that element gain much more; for the merchants, by many commodities, get a hundred, and two hundred, nay, three hundred per cent. in a navigation of about three weeks, which is the time usually employed from Chile to Lima, without any fear of pirates, all those seas being entirely the king of Spain's, and so free from those robbers. Besides, it is very seldom that any storms are felt in that voyage, or, at least, not any that endanger the loss of the ships. The greatest danger proceeds from the covetousness of the owners and merchants, who trusting to the peaceableness of those seas, and that they sail all the way from Chile to Lima before the wind, they load up to the mid-mast. It is no exaggeration; because I have seen them go out of the port with provisions for the voyage, and other necessaries, as high as the ropes that hold the masts; and though the king's officers are present to hinder the ships from being overloaded, yet generally they are so deep in the water, that they are but just above it; and with all these, there are many goods left behind in the magazines of the port; for the land is so productive of every thing, that the only misfortune of it, is to want a vent for its product, which is enough to supply another Lima, or another Potosi, if there were one.

It is upon this foundation that it is affirmed generally, that no country in all America has a more solid establishment than Chile; for, in proportion to the increase of inhabitants in Peru, Chile must increase too in riches, since it is able to supply any great consumption, and yet have enough of its own in all the kinds of corn, wine, flesh, oil, salt, fruits, pulse, wool, flax, hides, tallow, chamois, leather, ropes, wood, and timber, medicinal remedies, pitch, fish of all kinds, metals of all sorts, and amber. There wants silk; and it is to be wished that it may never get thither, but for ornament to the altars; for it is already the beggaring of the country, by reason of the great expence in rich clothes; particularly by the women, who are not outdone in this, even by the bravest ladies of Madrid, or other parts; but yet the land is so proper for silkworms, that if any one carries the seed of them there, I am persuaded it will take with great abundance, the mulberry-trees being there already as full grown, and in as great beauty as in Spain.

The wax likewise comes from Europe, though there are bees which make both honey and wax. Pepper, and other East India spices, come from abroad, though there is a kind of spice which supplies the want of them very well; and the authors above cited say, that in the straits of Magellan, there is good cinnamon; and that on those coasts there grow trees of a most fragrant smell in their bark, and which have a taste like pepper, but of a more quick flavour, as it shall be made out when we treat of that strait.

In the whole kingdom, the herbage and the fishing are in common; as also the hunting; and the woods for fuel and timber; and the same is practised as to the salt mines.

There is no imposition on trade through all the kingdom, every one being free to transport what goods he pleases, either within or without the kingdom.

### CHAP. V.—*Of the famous Cordillera of Chile.*

THE Cordillera, or high mountains of Chile, are a prodigy of nature, and without parallel in the world: it is a chain of high mountains, which run from north to south from the province of Quito, and the new kingdom of Granada, to Chile, above a thousand Castilian leagues, according to Antonio de Herrera, in his third tome, Decade 5., to which, adding the length of the kingdom of Chile to the streights of Magellan, it will make in all little less than 1,500 leagues. The remotest part of Chile is not above twenty or thirty leagues from the sea. These mountains are forty leagues broad; with many precipices, and intermediate valleys, which are habitable till one comes to the tropicks, but not beyond them, because of the perpetual snows with which they are always covered.

Antonio de Herrera, already cited, puts two chains of mountains; one much lower, covered with woods and handsome groves, because the air is more temperate near it; the other much higher, which, by reason of the intense cold, has not so much as a bush on it, the mountains being so bare, that there is neither plant nor grass on them; but he says, that on both these sorts of mountains there are several animals, which, because of the singularity of their kinds, I shall here describe some of them.

One of the most remarkable is a species of hogs, that have their navel in their back, upon the back-bone; they go in herds, and each herd has its leader, who is known from them all; because when they march, none dares go before him, all the rest follow in great order. No hunter dares fall on these herds till he has killed this captain, or leader; for as long as they see him, they will keep together, and shew so much courage in their own defence, that they appear invincible; but as soon as they see him killed, they are broke, and run for it, giving up the day, till they chuse another captain.

Their way of eating is also admirable; they divide themselves into two bodies; one half of them goes to certain trees which are in a country called Los Quixos, in the province of Quito, and are like the cinnamon-trees; these they shake to bring down the flowers, which the other half feeds on; and when they have eat enough, they go and relieve the other half of the flock, and make the flowers fall for them; and so return the service to their companions that they have received from them.

There are many sorts of monkeys, which differ mightily in their shapes, colour, and bigness, and other properties; some are merry; some melancholy and sad; these whistle, the others chatter; some are nimble, others lazy; some cowards, others stout and courageous; but yet when one threatens them, they get away as fast as they can. Their food is fruit and birds-eggs, and any game they can catch in the mountains: they are very much afraid of water, and if they happen to wet or dirty themselves, they grow dejected and sad. There are also great variety of parrots.

The wild goats are numerous; they are called Vicunnas, and have so fine hair, that it seems as soft as silk to the touch; this is used to make the fine hats so much valued in Europe. There are likewise a sort of sheep of that country, they call Quanacos, which are like camels, but a good deal less, of whose wool they make waistcoats, which are woven in Peru, and are more valued than if they were of silk, for their softness, and the fineness of their colours.

The same author says, moreover, that through this chain of mountains there went two highways, in which the Ingas shewed their great power; one of them goes by the mountain all paved for nine hundred leagues, from Posto to Chile: it was five and twenty feet broad, and at every four leagues were noble buildings; and to this day there are the places called Tambos, which answer our inns, where every thing necessary is to be found by travellers; and that which was most admirable, at each half league there were couriers and posts, who were designed for the conveniency of passengers, that they might send their letters and advices where they were requisite. The other way, which was also of twenty-five feet broad, went by the plain at the foot of the mountains, with the same proportion and beauty of inns and palaces at every four leagues, which were inclosed with high walls; as also streams and rivulets running through this way, brought thither by art, for the refreshment and recreation of travellers.

This is what Antonio de Herrera, and other authors, who treat of the Indies, do tell us about this famous Cordillera. Now I shall relate what I myself have seen, and do know about it.

And first, I must suppose, that though these two highways run separate and distinct through all Peru and Quito, yet they must grow nearer each other as they rise higher in the mountain; for when they come to Chile, they are no longer two, but one. This is clearly found, by experience, in those who cross the Cordillera, to go from Chile to Cuyo, as I have done several times, that I have passed this mountain, and never could see this division, but always continual and perpetual mountains, which serve for walls and fortifications on each side to one which rises in the middle infinitely higher than the rest, and is that which most properly is called the Cordillera. I am also persuaded, that the two ways above-mentioned came but to the boundaries of Chile, and ended in those of Peru. I have, indeed, in passing the Cordillera, met with great old walls of stone on the top of it, which they call the Ingas; which, they say, were encampments, (though not his, for he never came to Chile) but of his generals and armies sent to conquer the country; and it is not impossible but the said two ways might be continued on to these buildings; but it was not practicable, that it could be with that perfection, as in that part of the mountain contained within the tropicks; where, because the hills are more tractable, such ways might be made as they describe; but not in the mountains of Chile, which are one upon another so thick, that it is with great difficulty that a single mule can go in the paths of it: and the Corderilla grows rougher and rougher, the more it draws near the pole, so that it appears to be above the compass of human power to open a way through it, so curiously and finely contrived as it is represented. It was not necessary that the Inga should use so much art and industry, to make admirable that which is already so much so, as this mountain is in its whole course through the kingdom of Chile, as it shall be shewed when we discourse in particular of its several parts and properties. For first, supposing what we have said, of its running fifteen hundred leagues in length, and forty in diameter, its wonderful height makes it astonishing: the ascent is so prodigious, that we employ three or four days in arriving to the top of it, and as many more in the descent, that is, speaking properly, and only of the mountain, for otherwise it may be affirmed, that one begins to mount even from the sea-side, because all the way, which is about forty leagues, is nothing but an extended shelving coast; for which reason the rivers run with such force, that their streams are like mill-streams, especially near their heads.

When we come to ascend the highest point of the mountain, we feel an air so piercing and subtil, that it is with much difficulty we can breathe, which obliges us to fetch  
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our breath quick and strong, and to open our mouths wider than ordinary, applying to them likewise our handkerchiefs to condense our breath, and break the extreme coldness of the air, and so make it more proportionable to the temperament which the heart requires, not to be suffocated: this I have experienced every time that I have passed this mighty mountain.

Don Antonio de Herrera says, that those who pass it in Peru, suffer great reachings and vomitings; because no one thing produces so great an alteration at once, as a sudden change of air; and that of the mountain being so unproportioned to common respiration, produces in those who pass over it those admirable and painful effects. He says moreover, that those who have endeavoured to dive into the causes of them, do find, that as that mountain is one of the highest in the world, the air of it is so extremely subtle and fine, that it discomposes the temperament of the animal, as has been said. It is true, that in that part of the Cordillera in Peru, which they call Pariacaca, there may be a concurrence of other causes and disposition of the climate, to which may be attributed some of these effects; for if they were to be attributed only to the height of the mountain, we that pass it in Chile ought to find those inconveniencies as much, or more, because the mountain is highest without comparison; and yet I never endured those reachings or vomitings, nor have seen any of those motions in others, but only the difficulty of breathing, which I have mentioned.

Others experience other effects, which I have often heard them relate; for the exhalations, and other meteors, (which from the earth seem so high in the air, that sometimes we take them for stars,) are there under the feet of the mules, frightening them, and buzzing about their ears. We go through the mountains, treading, as it were, upon clouds; sometimes we see the earth without any opposition to our sight, and when we look up, we cannot see the heavens for clouds; but when we are ascended to the highest of the mountain, we can no longer see the earth for the clouds below, but the heavens are clear and bright, and the sun bright and shining out, without any impediment to hinder us from seeing its light and beauty.

The Iris, or rain-bow, which upon the earth we see crossing the heavens, we see it from this height extended under our feet; whereas those on the lower parts see it over their heads; nor is it a less wonder, that while we travel over those hills which are dry and free from wet, we may see, as I have done often, the clouds discharge themselves, and overflow the earth with great force; and at the same time that I was contemplating, at a distance, tempests and storms falling in the valleys and deep places, as I lifted up my eyes to heaven, I could not but admire the serenity over my head, there being not so much as a cloud to be seen, to trouble or discompose that beautiful prospect.

The second thing which makes this mountain admirable, is the prodigious snow which falls upon it in winter, which is so great, that though these mountains are so high and broad, there is no part of them uncovered with snow, being in many places several pikes deep. I am not informed how it is in the highest part of all, which is most properly called the Cordillera, because this being so very high, that it is thought to surpass the middle region of the air, its point alone may perhaps be uncovered; at least when I passed it, which has been sometimes in the beginning of winter, I have not seen a crum of snow; when a little below, both at the coming up and going down, it was so thick, as our mules sunk in without being able to go forward.

But that which I have observed, is, that after a glut of rain, which has lasted two or three days, and the mountain appears clear, (for all the time it rains it is covered with clouds,) it seems white from top to bottom, and is a most beautiful sight; for the air is so serene in those parts, that when a storm is over, the heavens are so bright,

even in the midst of winter, that there is not a cloud to be seen in them for many days; then the sun shining upon that prodigious quantity of snow, and those coasts and white shelvings all covered with extended woods, produces a prospect, which even we that are born there, and see it every year, cannot forbear admiring, and draws from us praises to the great Creator for the wonderful beauty of his works.

CHAP. VI.—*Of the vulcanoes, and the mines of gold and silver of the Cordillera.*

THERE are in this Cordillera, or chain of mountains, sixteen vulcanoes which at several times have broke out, and caused effects no less admirable than terrible and astonishing to all the country; amongst the rest, that which happened in the year 1640 is worthy to be remembered. It broke out in the enemies country, in the territory of the Cacique Aliante, burning with so much force, that the mountain cleaving in two, sent forth pieces of rock all on fire, with so horrible a noise, that it was heard many leagues off, just like the going off of cannon. In all that territory the women miscarried for fear, as shall be related more particularly in its proper place, in the account I shall give of the subjection of all that country to our Catholic king, being moved thereunto by this and other prodigies.

The first of these vulcanoes is called the vulcano of Copiago, and is in about twenty-six degrees altitude of the pole, about the confines of Chile and Peru; in thirty degrees is that of Coquinbo; in thirty-one and a half that of La Ligua; in thirty-five that of Peteroa; in thirty-six and an half that of Chilau; in thirty-seven and a quarter that of Antoco: this is followed by that of Notuco in thirty-eight and a half; that of Villarica is in thirty-nine and three quarters; near this is another whose name I know not, in forty and a quarter; and in forty-one is that of Oforno; and near that in less than quarter of a degree, that of Guanahuca; and in a little more than forty-two degrees that of Quehucabi; and last of all are two more; one without a name, in forty-four; and that of St. Clement, which is forty-five and a half.

These are the known vulcanoes of Chile: we have no knowledge of others, which may be as far as the Terra del fuego, because till this time our discoveries have not gone so far; but there is no doubt but there are some, as they are to be found before one comes to Chile, in the kingdoms of Peru and Quito. Diego Ordonnes de Salvos, in the third book and eighteenth chapter of his "Voyage through the whole world," mentions among the rest, one that is near the fall of the river, in the valley of Cola; it is on a mountain in the form of a sugar-loaf, like that of La Plata in Potosi; and that in winter it throws out so much smoke and ashes, that it burns up all the grass within two leagues round about it.

He likewise mentions another in the entrance of the province of Los Quixos, near the town of Maspa; and speaks of another, which broke out near Quito, in a mountain called the Pinta: and he affirms, that the ashes fly two leagues and a half from the mountain; and he has seen them lie on the houses about four feet deep in the nearest places to the mountain.

Lastly, he tells of that of Ariquepa, which buried the vineyards, and had almost overwhelmed the city. To this day there are seen the effects of that desolation, which ruined many families, by destroying their houses and possessions. At the same time he observes, that the earthquakes which before were frequent, ceased from that time; and this perhaps may be the reason why the earthquakes in Chile have always been considerably less than those of Peru, because Chile has more breathing holes for the vapours to exhale by.

There is no room for doubting of the immense riches which these mountains inclose in their bowels; for it is a certain argument, and proof it, to see only the mineral riches of Chile, which are, as it were, indexes of what may be contained in those rocks, as the rivers which fertilize the country are a proof of the unexhausted fountains contained in the rocks and precipices.

I think there may be two causes assigned, why these riches do not manifest themselves nor appear more: the first is, that general state-reason, and inviolable maxim among the Indians, to conceal and not discover them to any other nation. This they observe so punctually, that it is among them a capital crime, punishable with death, to break silence in this matter, which they make sacred and indispensable; and if any one among them, either out of interest, negligence, or any other motive of conveniency, discovers any thing of this kind, his death is infallible, and no power on earth can save him.

I remember on this subject, that some gentlemen having, by presents, insinuations, and flatteries, come to the knowledge of some treasure by the means of an Indian, and prevailed with him at last to guide them to some very rich mines in a remote mountain, he begged earnestly of them to be secret, or otherwise he was a dead man, let them take never so much care of him. They promised him accordingly, and so they set out, and he brought them through horrid rocks and precipices, where it looked as if never man had set his foot, nor scarce any living animal. Every day they met with certain marks, which the Indian had told them of beforehand: first, after so many days they discovered a red mountain; and then at a certain distance from that a black one on the left hand; then a valley, which began from a monstrous high mountain or rock; then at so many leagues a mountain of chalk. All which signs the guide went shewing them, verifying thereby the relation he had given them beforehand, and comforting them up to endure the hardship, by the hopes of fulfilling at last their expectation, and seeing their labour rewarded.

Their provisions failed them, and they were forced to come back to provide more, to pursue their enterprize. The Indian was always in fear of being discovered, knowing that he run in that no less a hazard than that of his life. They returned then to a town; and to secure their Indian from his fright of being discovered, they locked him up in a room very safe; but the night before they were to set out again, without ever being able to discover how it was done, (for there was no signs by the door of any body's going in that way,) as they went to call the Indian in the morning, they found him strangled; by which means, being deprived of their intent, and having lost the hopes of satisfying their desire, they returned to their own homes, though with a resolution to try again, being encouraged by so much they had already discovered.

The other reason to be assigned for not seeking after these mines, is the great plenty of every thing necessary for life; so that hunger, which is the prompter of covetous desires, being wanting, there are few that care to run a hazard, and lose their conveniences at home, to go through impracticable deserts upon search after hidden treasure; particularly finding already so much in the valleys, bottoms, rivers, and fountains; nay, even these mines in the low countries are not wrought, because the profit of other products is easier. It is probable that people will increase; for every day there is a new addition; and there then being more consumers, the product of the land will be dearer; and provisions not being so cheap as now, men will be more ingenious and industrious to seek for sustenance under-ground, by the mines and treasures hid there by providence.

These few years last past have given beginning to a discovery of some golden mines, and silver ones, on each side of the Cordillera: for, as I passed over it once, I remember that the sight discovers a black mountain at a distance, whose top shines as if it were covered with silver; and it is a common tradition that it contains it, and great treasures besides, in its bowels; but they are at present useless, for the reasons alledged; and because one half of the year the mountain is covered with snow, and so not only uninhabitable, but impenetrable.

They write me word, that on the side of the province of Cuyo, they have begun to discover other very rich mines, which being below the roughest part of the mountain, may be wrought all the year round, and with great conveniency of the miners, and other necessary workmen, because carts may come to the very situation of the mine, which is of consideration for the price of the metal. They speak of it with great expectation, by reason of the good proofs they have already had in the assaying of it in small quantities.

Besides the mines of gold, and silver, and brass, and lead, which are worked in Coquimbo, and those of quicksilver, which have been discovered within these few years in Lamache, which is a valley in Chile, I do not know of any others of any other sort in this Cordillera. I am verily persuaded there are some of chrystal; for, considering the nature of the place, I cannot think there is one any where more proper. Being in the valley of Rancagua, I heard one of our nation tell an Indian, that upwards in the mountain he had found a great deal of chrystal: he hearing this, out of curiosity went up to see what it was; and I heard him tell, that after having gone over several rocks, he saw on the top of a precipice a great opening, and that drawing near to it, he saw a profound cave, and in the bottom of it a great plank or table of chrystal, which appeared to him of the finest sort; but wanting help and instruments to get it out, he returned with only this information, and some little pieces of a chrystal stone which he found on the top.

#### CHAP. VII. — *Of the Fountains, Rivers, and Brooks, of the Cordillera.*

THAT which contributes not a little to the admiration we have for this great chain of mountains, is the vast number of fountains, springs, brooks, and rivers, which we meet with ever and anon, when we go over it: they are so numerous, that it is a thing rather to be seen than related, though the travellers reap but little benefit by the curious observation of them; for by them the ways are the most broken and troublesome that it is possible to imagine: they last about eight days journey. One must suppose too, that the summer is pretty well entered; for in winter they are absolutely impassable, and in the spring not without evident danger of one's life; because one travels all the way on a path so narrow, that there is but just room for a mule's feet. On one side are prodigious precipices, which have at the bottom a furious and profound river; and on the other hand huge rocks, and some part of them standing out so, that if the mule's loading, (as it often happens, and I have seen it,) touches part of them, it throws down the mule headlong, and sends her rolling down till she comes to the river at the bottom, which carries her away to the sea without stopping, except it happen upon some turning of the river to get it on the shore; where, though the lading may be saved, yet not the mule's life, because it is impossible almost to get her up again.

In many places one is forced to light; and even a man on foot is not very safe, because some of the coasts are so straight and slippery, that it frights one to walk on them.

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The ascents and descents of the hills are so steep, that when from below one looks at those who are above, they look like figures; and for my part I thought it a temerity, if not an impossibility, to venture to get up to them.

The brooks and rivers which cross the ways every step are so violent, that there is no head so strong, but it turns to look on their current; which is so swift, that if it comes up to the mule's saddle, there is no passing without evident danger of one's life; for these streams coming from on high, have the strength of a mill-stream, carrying along with them loose stones, which overturn a loaded mule as it were a chicken; so that it is necessary sometimes to stay two or three days till the sun does not shine; for then these brooks are lower, because there is less snow melted: and for this reason it is always best to pass early in the morning, they having had all the night to run lower.

It was necessary for an allay of the dangers and irksomeness of these ways, that God should temper the rigour of the sufferings, by the variety and diversion which so many waters give in their rise and course: some are to be seen breaking out from almost an imperceptible height, and meeting with no intermediate object, the whole mass of water, which is usually very great, dissolves itself by the way into so many drops, which make a lovely prospect, like so much pearl falling; and being mingled by the force of the air, which drives them across one upon the other, it seems a chain hanging from its first issue to the earth; where, taking another shape, it becomes a running brook, and unites with the current of the chief river which runs in the middle.

I saw others, which before they got to the earth, divided into two branches, forming like a thick shower in the midst of the way, or atoms in the sun beams; but it is impossible to paint all the variety of objects produced by these several motions and compositions of streams and fountains. I cannot leave them without mentioning one called the Eyes of Water, which is very remarkable; it is in the last mesa but one, at the foot of the mountain. I call it mesa, because providence has, for the relief of travellers, disposed, at some leagues distance, little valleys and agreeable plains, which ease the travellers in this most tedious and long ascent.

This valley is environed with a wall of most prodigious high rocks; it may be a mile or thereabouts in its diameter, and is all the year round full of greens, odoriferous plants and flowers, which make it a picture of paradise: in the midst of it springs up this fountain, or fountains, because the springs of water are many that rise from the ground all about, leaping with great force into the air, which in a little space all unite, and make two great bodies, each of them full of water, as clear as crystal. These two heads begin a kind of combat a little below, and mingling in their course with one another, as if some ingenious artist had ordered it, make a great many turnings and windings, sometimes far from one another, and sometimes united through the whole valley, till at the end of it, joining together, they fall into one canal, which empties itself into the principal river, composed by many of these rivulets.

One property of all these crystal streams, is extreme coolness, which they never lose, no, not when the sun shines out most in the heat of the day; it is such, that no body can drink half a cup-full of it without resting, or taking breath; and though all these springs have this quality, yet none in so intense a degree as this fountain of Los Ojos de Aqua; of which, though the weather be never so hot, it is not possible to drink above two or three sips; and one can hardly endure to hold the water in one's hand above a minute.

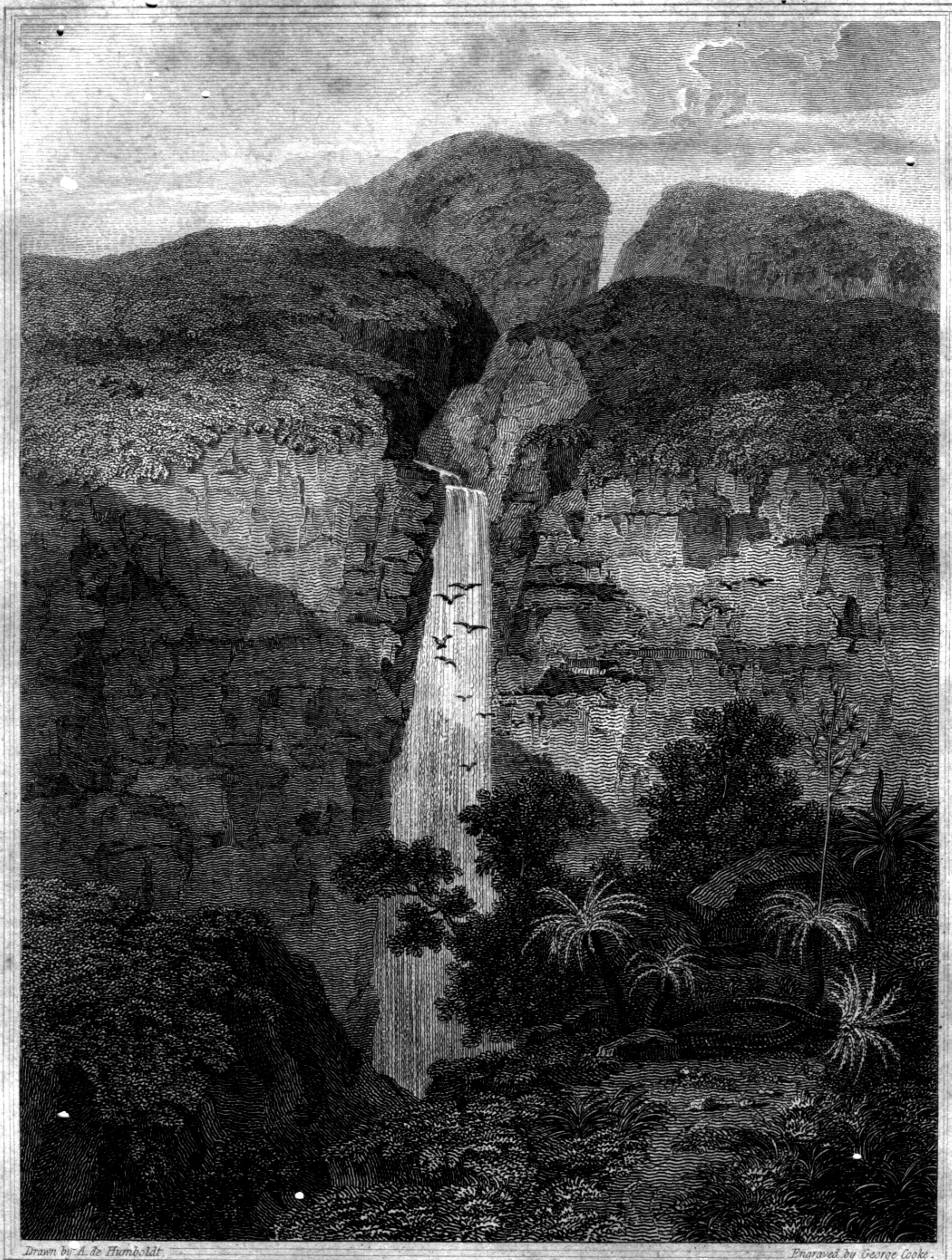
Behind one of those high mountains, which is to the east of this fountain, there is a great lake or pond, so deep and clear, that it appears as if it were of azure; and there is a tradition, that the last of the Ingas, kings of Peru, caused vast quantities

of treasure to be thrown into it, when he saw that he could not redeem himself, nor save his life by them; though it seems hard to believe they should go so far to do a thing they might have executed much nearer home. The waters of this lake have no issue, being environed on all sides with very high rocks, and therefore it is thought that it comes under-ground to those fountains called the Ojos de Aqua, and empties itself by them.

I cannot pass over in silence another fountain which is at the foot of the Cordillera, on the other side towards Cuyo. There is a river called the Rio de Mendoca, which comes down from the east, not inferior to that of Aconagua in Chile, which runs to the west into the South Sea. Into these two rivers are emptied most of the little streams of the mountain; that of Mendoca meeting in its way with a chalky mountain, bores it quite through, and leaves a bridge broad enough for three or four carts to pass a-breast. Under this bridge is a great table of rock, over which run five different streams of water, proceeding from so many fountains; which water is extremely hot and very good for many distempers. The stones over which it runs are of a green like emerald. The vault of this bridge surpasses in beauty all that human heart can produce; for there hang down from it several icicles, in shape of flowers, and pendants of stone like salt; for the humidity which penetrates from above, makes it congeal like points of diamonds, and other figures, which adorn this vault; through which there falls perpetually a quantity of great drops, as big as pease some, and others as big as yolks of eggs; which, falling upon the stone table I have mentioned, are turned into stones of several shapes and colours, of no small value.

There is another bridge on the other side, called the Inga's Bridge, either because he caused it to be built, or because (as is most probable) his generals were the first discoverers of it, and passed over it; for it is not possible that any human art could make so bold an attempt as has been brought to pass by the Author of nature in this place. This bridge is formed by a most prodigious high rock, which is cloven in two, as if it had been sawed down, only covered on the top; it is hollow to the very river, which is large and rapid, and yet the noise of it is no more heard on the top, than if it were a little brook; which is a strong argument of the great distance there is between the top and bottom of the mountain; for the opening not being above eight feet over, it being easy to leap from one side to the other, it would be thought, that a great river being so straightened as to go through it, should make a very great noise in passing such a straight place with so much force; and if the noise does not reach the ear, it is because of the great distance. I myself have gone to the side of this bridge, and looked down, (though with great horror, for it strikes a shivering into one, to contemplate such a depth, than which I have not seen a more terrible one;) I not only did not hear any noise, but that great river appeared a little brook, hardly to be discerned.

These are the entertainments for the eye in passing this part of the Cordillera. As for the many others which may be met with in so vast an extent, who can relate them? I believe there are those who know much more than what I have here described, which is only what I have seen; but from so little it is easy to infer more; for if only the rise of two rivers have afforded such matter of admiration, what may not be produced in the birth and course of so many others, as we shall describe in the following chapter?



*Drawn by A. de Humboldt.*

*Engraved by George Cooke.*

*Cascade of the River Vinagres.*

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CHAP. VIII.—*Of the vast number of Rivers which take their Rise in this Mountain, and empty themselves into the Sea.*

THE great Author of nature has founded the best part of the beauty and fecundity of the fields of Chile in this range of mountains called the Cordillera, in which, as in a bank that can never break, he has deposited its treasure and riches, by assuring the annual tribute of so many brooks and ample rivers which are to fertilize the earth; for neither can the country maintain its fertility without such moisture, nor such a moisture maintain itself all the year without such quantities of snow, as are laid up in the deep hollows of it in the winter, to feed in the summer the many rivers that are derived from it.

Who can demonstrate the number of them at their rise? But one may guess at the prodigious quantity of snow which supplies them; for though it cannot be seen all in a mass, because its reservoirs are impenetrable, yet its effects do manifest it; for besides the feeding of innumerable rivers which run to the east, and empty themselves into the north sea, and supplying prodigious lakes in the province of Cuyo, those which run to the west, and enter the South-Sea, (not reckoning what may be by the straits of Magellan, and the Tierra del Fuego,) are above fifty, which may be well multiplied by four apiece more which they receive, and so make two hundred; which arrive at the sea so full and deep, that some of them have water enough for the navigation of the galleons and ships of great burden; which is the more to be admired, because their course is so short, the most extended of them not passing thirty leagues in length.

The first river of this kingdom, beginning from the confines of Peru about the 25th degree of latitude, is the river called the Salt River, which comes from the Cordillera, running through a deep valley: its waters are so salt, that they cannot be drank; and when sometimes horses, deceived by its pure clear colours, happen to drink of them, they are turned into salt by the heat of the sun, so that the bodies seem of pearl, they beginning to petrify by the tail.

The next to this is the river of Copiapo, in 26 degrees; it runs 20 leagues from east to west, and makes a bay at its entrance into the sea, which serves for a harbour for ships. In 28 degrees the river of Guasco does the same, and forms a port.

After this comes the river of Coquimbo, in 30 degrees, whose port is a noble bay, adorned on the shore with fresh and beautiful myrtles, and other trees, which continue within land as far as the town, and make a noble and pleasant grove, which out-does all the contrivances of art. There are fished in this coast tunny-fish, Albucore, and many sorts of excellent fish, as also oysters and great variety of shell-fish.

The next to the river of Coquimbo are those of Tongoy and Limari, about 30 degrees and a half east; and then in 31 degrees the river of Chuapa empties itself into the sea. Upon that coast there is found a sort of delicate shell-fish, which they call Jacas.

Between the one and thirtieth degree, and the two and thirtieth, the rivers Longotoma and La Liga enter the sea; and about thirty-three degrees that of Aconcagua which is the great river which comes down, as we have said, by the way of the Cordillera. This is a very deep river; and though it runs through the large valleys of Curimon, Aconcagua, Quilota, and Concon, which being cultivated with all kinds of products, particularly wheat, flax, hemp, &c. and by consequence well watered, yet this river arrives at the sea as full and deep as if they had not drained it by the way to fertilize their fields.

About

About thirty-three and a half, follows the famous river Maypo, which I cannot tell whether it be more famous for its good qualities, or for the danger and difficulty of passing it; many have been drowned in it, and every day miscarrying by it. It is of so rapid a current, and sometimes swells so high, that no bridge can resist its fury, but it is carried away by it; for which reason, at this day it has no other but one of many cables joined together, and lying a-crofs from one side to the other. Its waters are ordinarily thick; and it enters the sea with so much force, that it makes its way in it distinct for a good while; its waters are perfectly known from those of the sea by a circle they make: they are besides very cold, and yet it quenches thirst but ill, for it is brackish, which makes the flesh of the sheep which feed near it, to be excellent in taste. There are fished here also most excellent fish, particularly trouts, esteemed all over the country.

There falls into this river, among others, that of St. Jago, otherwise called the river of Mapocho, which is divided into several streams, to water the district of that city; and it does it sometimes more than we could wish, when it overflows. Not far from the city, it hides itself under-ground, leaving a bridge of two or three leagues over it, while it maintains a silent course underneath; at the end of this space it comes out in bubbles among a grove of cherry trees, with its waters as clear and purified as chrystal; so that though it seems to hide itself, and die, it is only to spring up again more beautiful and stately, being of a stronger current, before it is again spread and diffused to fertilize the fields. At this place of its second birth, there stands an ancient and illustrious convent of St. Francis, which, because it is within sight of a vast forest of trees, is called St. Francis of the Mountain, in which there have been, from time to time, most holy men of the first founders in that province, and who imploy themselves in the worship of God, and help of their neighbours, with great zeal and reputation of their order.

The river of Poangue, which falls likewise into Maypo, runs also many leagues under-ground: this cannot rise with more advantages than at its first fountain; for its waters are, at the very source, so clear, delicate and sweet, that they cannot be mended; it has not its original like all the rest, from snow-water, but from minerals of gold, through whose veins it makes its way, as if it had an aqueduct of that precious metal: its course is bordered on each side with most beautiful trees, which contribute to make its waters wholesome: they are indeed of themselves a remedy; for they help digestion so visibly, that if any one has exceeded and eat more than his stomach can well embrace, one draught of this water will relieve him, so that he shall be hungry again in a little time. Neither is it useless under-ground; for while it is there, it communicates itself to the whole valley by subterranean conduits: the effect of which is visible; for though in the summer it does not rain a drop, and the valley has no other watering, yet it brings as seasonable a crop, and as relishing fruit, as any other that has the help of rain and other irrigations; neither have I seen any where larger or more delicious melons, nor more abounding and well-grown maize, than in this valley.

There are two other rivers which fall into Maypo, which are called De Colina and Lampa; which, uniting together about ten or twelve leagues from their first rise, make the famous lake of Cudaguel so profound and deep, that great ships might swim in it; this lake is about two leagues long, all bordered with delicate willow trees, and other greens, which keep their freshness and greenness all the year round; and, that nothing may be wanting to its agreeableness, it is full of excellent trouts and Vagres, which sometimes

sometimes are so plentiful, that they are easily caught; and this uses to be one of the greatest diversions of the citizens of the city of St. Jago. There are other lakes, as those of Aculco, which empty themselves into this river of Maypo, on the contrary side to that of the clear river: there are also bred in it smelts of above a foot long; the very name in Spanish declaring their excellency, it signifying a royal fish: some years there is such plenty of them, that the whole city may keep Lent with them alone, without buying any other fish from the sea; which, though it is very good, yet it never attains to the delicacy of the river-fish, which is so sweet and healthy, that it is used to be given to the sick and convalescent.

After Maypo, is the river of Rapel, not at all inferior to the other; it enters the sea about the 34th degree, and as many minutes; about four or five leagues before the two famous rivers of Cachapoal and Tinguirica join together, and are no less in debt to mankind for the many people they have swallowed, than that of Maypo. Among others which increase their rapid current, are the rivers Mallua and Chambaronigo: on the banks of this the order of the Redemption has a convent, for the instruction and edification of all that country. The Jesuits have also a novitiate, who have for neighbours a monastery of St. Dominick. The lands thereabouts are extreme fertile, have excellent pastures for the fattening of cattle, and are much valued all over the country. In thirty-four degrees and three quarters is the river Delora, which receives those of Teno, Peterroa, and Metaquito, whose stream is so rapid, that many perish in it. These rivers water most rich lands, and a delicious country for the breeding and feeding of all sorts of cattle; and indeed there is not a foot of ground unemployed in them.

The great Maule appears at thirty-five degrees; and it makes the limits of the archbishoprick and jurisdiction of the city of St. Jago: all that was inclosed between this and Rapel, Cachapoal, and Tinguirica, was called by the natural Indians, Promocaes, that is, a place of dancing and delight, to express the pleasantness of that country. They were not out in this character at all: I remember once, that travelling in this country, when I came to a farm of any Spaniard, he would entertain me with nothing but the praises of it, and that with so many particulars, that I could not imagine it could be out-done by any in the world; but when I came to another farm, the master of it would relate to me such admirable properties of his, that the first seemed but ordinary to me. Thus I found every one so in love with the spot he lived on, that I could not but admire the whole, and have a great idea of the excellency and temperament of this land, as well as of its provisions. Partridge are abounding, and all manner of game; and as for fish, there are such quantities of smelts and trouts, that they take them when they will, being as sure almost to catch them, as if they had them in ponds at home. I have heard them often say, that when they were sat down to table, if any one longed for a fresh trout, they had no more to do, than to send and catch one, which they would have ready dressed before they rise from the table. The river Maule receives the clear river, and that of Cauquenes; and though it be as deep again as either of them, yet it is less dangerous for passengers, and fewer people are drowned in it; because near the sea, by the yard for building of ships, it spreads itself, and makes a large passage, where the king has a ferry for the conveniency of passengers. The Austin friars have also a convent here, and take care of the Spaniards, and their black and Indian servants, who people all the banks of this river, and are numerous, living in separate farms all along the country: these they call Estancias.

Now we enter the jurisdiction of the city of the Conception, where the governor resides; and there is a garrison of the militia. The bishoprick of the city of Imperial begins

begins also at this river, which has for next and immediate neighbour the peaceable and noble river of Itata, three times as large, and as deep as the Maule, and enters the sea at about thirty-six degrees; its course is among rocks, and so is less useful to the land, because it cannot water it: they pass it upon rafts, and there are also fords in some places. About the middle of its course, the furious torrent called Nuble joins it: this washes the walls of the city of St. Bartholomew of Chillan, an ancient garrison of the Spaniards, and a singular proof of their bravery and fidelity.

Immediately next to this river is the spacious and agreeable bay of the Conception, into which the slow and silent river of Andalien empties itself at thirty-six degrees and three quarters. There is another small river which passes through the middle of the city, having first precipitated itself from a high rock, and affording matter to the industry of the inhabitants, for all sorts of water-works among pleasant groves of laurels, and myrtles, and other odoriferous plants which adorn its banks; and as it falls from so high, it invites the industrious planters to contrive mills for the sustenance of the city; of which there are already a great many.

Two leagues further from this bay, in the thirty-seventh degree, the so much celebrated Biobio enters the sea. It is the most powerful river of all Chile: it has at its entrance two or three miles in breadth, more or less, according as it swells or shrinks, which is a great deal, considering its short course: but that is not the chief thing which makes it famous, and deserve so much praise; it is its wholesome waters; for (besides the particular excellence they may acquire, by passing through veins of gold, which nevertheless many other rivers of this country have too,) it has a singular advantage, by a small river which falls into it; which river, taking its rise and course among Sarzaparilla roots, communicates to the other its virtue and good qualities, and makes it a cure for many infirmities. There is a tradition, that at the source of this river there were most rich mines, worked before ever the Spaniards came into these parts. Upon this information, Don Alonso de Sotomayor, president of the country, sent a band of soldiers to view them, as they did; though as they came back, they were laid wait for by the Indians, our enemies, and had a smart engagement with them, and had much ado to escape with their lives. This Indian people do always as much as they can to hide from the Europeans the treasures and riches of their country, as it has been said already.

This river is the bounds which divides the Spaniards and our Indian friends from the Indian enemies: in winter the river overflows so, that all the fords are unpassable; and so the soldiers may take some repose 'till the spring, at which time they are to begin their inroads again. The enemy on his side has no garrison, nor place of strength; for they trust to their mountains, to which they can retire at any time: but the Spaniards have many garrisons all along the river, with which they bridle and keep in awe the potent rage of their proud enemy, who alone has given them more trouble than all the rest of America.

Their chief forts, besides the cities of the Conception and Chillan, are those of Arauco and St. Philip, in which there are generally about sixteen hundred natural Spaniards, besides the Indian allies, who are numerous. The first of these is upon the sea-side, and the other nearer the Cordillera. There are others between on each side of the river, and some pretty far into the enemy's country. I can name nine of these forts; which are, that of St. Angol, of the Nativity, of St. Anne, of St. Rosendo, of Good Hope, of Talmacahuida, of St. Peter, of Colcuta, and that of Levo. These are all provided with great guns, and a sufficient number of soldiers; and at such proportionable distances from each other, that they can soon receive notice of what is necessary

necessary to be known from the first to the last by the cannon-shot, according as it may have been concerted beforehand.

The company of Jesus has here two residences, one in Arauco, and the other in the fort of Good Hope; from whence they also make their attempts, not against the bodies, but to save the souls of their enemies, engaging with hell itself, and obtaining over it daily and glorious victories, as it shall be told in its proper place; for now we must follow the description already begun of the rivers of Chile.

After Biobio follow four others much inferior to it: they are the rivers of Colcura, Arauco, Lavapie, and Levo, which empties itself near the thirty-eighth degree; and a little further, that of Ralemo, which a little from its source is called Coypo, in near thirty-nine degrees. The pleasant and peaceful river of the Imperial enters the sea, having first incorporated with its stream, the river called the Ladies River, because of the delicacy of its waters and quiet current. More above, near its source, it receives the two rivers of Curarava and Eyow, which, before they meet to enter the river Imperial, form the much celebrated lake of Puren, a most unconquerable fortress of the Indians, who are more secure in it, than the Spaniards in any of theirs.

About half a degree beyond the river Cauren, which is the same as the Imperial, the river Tolten pays its tribute to the sea, and is deep enough for great ships. About eight leagues further, the river Queule does the same; which, though small, yet receives barks in it, and is about nine leagues upon a north and south line from the famous river of Valdivia.

#### CHAP. IX.—*Of the famous Port and River of Valdivia.*

THE river and port of Valdivia, never enough commended by foreign writers, and no less admired by those who have seen it, had its name from Pedro de Valdivia, first governor and conqueror of Chile. It is, as it were, in the centre of the whole kingdom, at almost forty degrees latitude south-west from Seville in Spain; upon a plain map one thousand nine hundred and seventy leagues, measured by the heavens. The sun is five hours, and a third part of an hour, in going from the meridian of Seville to the meridian of Valdivia; so that when it is noon at Seville, it is in Valdivia six o'clock and forty minutes in the morning. Its longest day is of fourteen hours, or thereabouts.

This river has its opening to the north; and because of the depth of its waters, great ships can go up to the very city, which is two or three leagues from the sea: when they are there, they can lie so near the shore, as with a plank to go in and out, and take in and unload their cargo, without the help of boats. There is just over-against the city, a fine island, called the Island of Constantine, with two little ones, one before and the other behind the island. The river is navigable on both sides the island; but because the south branch has more depth, the great ships come in that way, and the lesser by the north branch.

There are two high points of land, like rocks, which mark the entrance of this river; the biggest is to the north, and is called Bonifacio's Hill; the south is lesser, and is called Gonçalo's Hill. When one is entered some way up the river, there is another straighter passage, which is the key of the port, or rather ports, because there are many harbours within. This entrance has also two hills, which come so near each other, that I have heard a captain, who was sent to sound the river, relate, that in the middle he was within musket-shot of either hill; the south one is called Morro de los

Mançanos, and the opposite Morro de Niera : so that, according to this account, there might be an iron chain laid from the one to the other, with which, and two forts raised on each side, the entrance would be made impenetrable.

As soon as this straight is passed, there is on the south side a noble port ; for though all the river may be called so, for the quietness of its water, yet this is more advantageously situated, by being covered with the mountains of the land : it is called the port of the Corral : it forms a bay capable of receiving great fleets. When you have passed this port, there appears the first island ; between which and the land on the south side, there are many shoals and sands ; wherefore the ships take the north side, and go between this island and the great one ; and then follow their course up to the city, by the channel of the great island. The lesser vessels may keep the other side of the island.

Besides all these good qualities, this port has other advantages from the land, by the fertility of the country, which produces corn and fruits of all kinds, except grapes, which do not ripen here so well as in other parts of Chile, from which wine is brought to these parts : but it has great plenty of beef and mutton, fowls and venison. It has also wood for the building of shipping ; and that which is above all, it has the richest mines of the finest gold in Chile ; and in all America there is none comes up to it, but the gold of Carabaya.

This is the account of Antonio de Herrera. He adds, that there was an Indian, who had every day a revenue of twenty-five or thirty pesos of gold ; which being observed by the governor Valdivia, he sent the Adelantado Hyeronimo de Alderate to Spain, to inform His Catholick Majesty of the great riches of the kingdom of Chile, that His Majesty might make the more esteem of it ; and to invite foreigners to come and people the country, and help him to conquer it, he sent some Spaniards by land, whose stirrups, breast-plates, and all that used to be iron about a horse, were of fine gold ; and that, not satisfied with this, he had resolved to go in person, to inform His Majesty, and obtain from him the confirmation of his government : to which end he employed twenty thousand Indians to bring him gold, designing to embark and sail through the straits of Magellan, if death had not prevented him.

This city was founded by the governor Valdivia, in the year 1552, upon a high rising, but plain side of a hill, and above the rest of the country.

The famous Indian lady Recloma was very instrumental in helping towards its conquest and foundation. The story was thus : the Spanish forces were come to this river, conquering the country all the way before them ; but here the Indians not being willing to let foreigners settle in their country, took up arms, and making the river serve for their defence, hindered the progress of Valdivia, and gave him great trouble. But he being a man of great courage, was not daunted by this resistance, but endeavoured to pass the river to engage the enemy.

Upon this occasion, this brave Indian lady, either inspired by Heaven, or touched by compassion of so much blood as must be shed on both sides in the encounter, offered the governor, that she alone would gain him the victory, without any other force, than that of her eloquence and courageous mind. " Stay here," said she, " and go no farther ; for I will put all this province into thy hands, and will make thee this day lord of all that thy eyes can discover. Stay for my return here, and do not suffer any of thy soldiers to pass on a step further." The governor promised to do so ; and, upon his word, and promise of good treatment to the Indians who should submit to his God and his king, she threw herself into the water, and, in the presence of them all, swam the river. When she was landed, she desired audience of the general of the Indians ; to whom she delivered her message with so much force of eloquence,

that

that they submitted to her reasons, and promised to accept of what terms should be given them. With this the famous Recloma returned to the Spaniards, singing victory, laying at their feet the richest prize they could wish; and such a one, as after much time, expence, and bloodshed in the conquest of it, they would have thought themselves well paid to be masters of such a country, whose golden mines they presently began to work: by which means the city increased so fast, that if the devil had not troubled the peace, and caused the rebellion of the Indians, which ruined it, it had been one of the first and best cities of the Indies.

The Hollanders, our enemies, are well informed of the nature of the country, and the excellency of the port, and do all they can to get possession of it; but our Saviour, who, by his grace, has hitherto preserved those countries free from heresy and its corruption, will not permit that this Hydra of hell shall infect that air with its venomous breath, nor breed a contagion in the purity of its faith, which is propagated so sincere and true in the hearts of those new Christians.

This has been proved by the success of a fleet of theirs in the year 1643, when these rebellious pirates passed the straits of Magellan, with a design to settle at Valdivia; for though in effect they did people the place, having first passed by the islands of Chiloe, where our company has so many glorious missions, in which they threw down the altars and the crosses, and committed other enormities proper to their impiety and obstinacy, yet at last they came off no laughers, but had reason to lament rather. The same befell another of their generals, called Antonio Sivaestro, many of his fleet being taken prisoners, and thirty of them hung up by the feet, as is related by their own authors, John and Theodore de Brye.

But in this second occasion, they paid yet more severely for their attempt; for in the very same island where they had committed all these disorders, God took the life of the general, punishing his unhappy soul with the due chastisement of such an undertaking. They lost the ship which carried their provisions, their ammunition, thirty pieces of artillery, all the brick and lime, and other materials for building three forts, which they had orders to raise in the river of Valdivia, and on the island of Constantine in that river; and having afterwards got to Valdivia, and begun to people, their new general, whose name was Elvis Aramans, was forced to shut up all his people in the island of Constantine, because they run from him continually, and forsook him; besides the prisoners made in the islands of Chiloe, and others destroyed by us, and the warlike Indians.

In short, God having espoused this cause as his own, they were tormented with hunger; and before the Spaniards, who were on their way, could come up to them, their own diseases and losses obliged them to weigh anchor, and be gone. This was their wisest course; for if they had staid till the fleet from Peru had come up to them, and the land forces from Chile had attacked them, they had not got off so well; for the Marquis of Mansera being so good a soldier himself, and so zealous for God and his king, immediately, upon the first news of their arrival, had set out ten sail, which he provided with powder and ammunition, and dispatched them to give advice along the coast; then he prepared a navy, which was to be of 16 galloons and ships, and 4000 Spaniards, resolving to go in person, or at least to send his son.

The governor of Chile, the Marquis of Baydes, with his accustomed vigilancy and readiness in things, where the service of God and the king are concerned, and as a captain of that valour and experience, which he shewed in Flanders, was ready to enter by land, after having provided all the ports of the kingdom with the army kept on foot by His Majesty; so that if the Hollander had had yet more force than he had,

being so hard pressed both by sea and land, he must either have relinquished the port, or perished there for ever.

It has been seen on this occasion, that one man is as good as many in the defence of the cause of God and their country, against any invader whatsoever, every one despising all dangers on such an account; but particularly Colonel de Villa Nueva Soboral signalized himself at this time; for being general of the kingdom, and governor of the country of Arauco, he ventured himself in a small bark in the midst of winter, to solicit at Lima the necessary succours, and assist the viceroy for a more quick dispatch of all things.

He took with him father Domingo Lazaro, of the company of Jesus, that he might inform him as an eye-witness of all that had passed, he being at that time employed in Chiloe in the apostolical missions, when the Hollanders landed: he, nevertheless, with undaunted courage, embarked in the midst of the winter in a tempestuous sea, as it is at that time; and without apprehension of all those dangers, and of being made a prisoner by the Hollanders, who lay in his way, and could scarce be avoided, he arrived at the city of the Conception, where he gave an account of all that had happened; by which means the country was immediately prepared, and in arms for their defence.

There is another action which ought not to be concealed, as well because it shews the great prudence of the Marquis de Baydes, as the outrage of 20 Spanish soldiers. It being uncertain whether the enemy were still at Valdivia, or whether he had abandoned it, they offered to go in a boat up the river, as they did by the governor's command; and without being terrified by the manifest danger they exposed themselves to, they went as high as the town; and having discovered the ill condition of the enemy, and his design of leaving the place, they returned with that advice. This moved the general not to attack them, as was at first resolved; but it did not hinder his intention of peopling the place, (as I believe was done by last summer;) for I have advice from Panama, that there is a garrison of 600 Spaniards left there; to which our Indian friends being joined, and the coast Indians also, that post will be henceforth inexpugnable, and by it the South Sea will be secured; for it being already so dangerous to sail through the straits, and so easy for us who are at home to defend this post of Valdivia, and having all the land our friends, we receive succours both from the Spaniards and Indians, who are so friendly, that their caciques sent to offer their assistance of their own accord against the Hollanders; I say it will be very hard henceforward for any one to give us any disturbance.

CHAP. X. — *A Continuation of the Description of the Rivers of Chile, and particularly those which run to the East; and of the Difference between the one and the other side of the great Cordillera.*

THE river next to that of Valdivia is that which is called Chalbin; it is deep, and capable of great vessels. From this river, to a place called the Punta de Galera, it is about two leagues; and from this to Rio Bueno seven; into which fall five rivers more, and one which is beyond the bounds of Valdivia.

After this is the Rio Chico, which comes from a lake at the foot of the Cordillera; in which lake are baths to cure leprosy and other infirmities. Next to this is the Rio de la Ballena, which is close to the cape of that name, so called because of a whale of prodigious bigness, which died upon that coast. After this, you come to the Archipelago

pelago of islands, into which falls the river called De los Rabudos, because of an Indian nation of that name, so called, because it is said they are born with tails, as father Gregory of Leon describes them in his map. More on to the south is the river De los Coronados, named so by the company of a ship which put in there on the day of the Forty Martyrs so called.

After these there are many rivers all along the coast; the first is called De la Esperanza, or of Hope, because of the wishes, that one day the light of the Gospel may reach to those parts by means of the ministers of it. The second is called Rio sin Fondo, or the river without a bottom, because of the great depth of it. The third is called the Gallegos, from a Spaniard of that name who failed along those coasts, and, like another Icarus, gave his name to one of them, by being drowned in the sea by it, at a cape which has the same name. Then follow the rivers De los Martyres, and De los Apostolos; and immediately after them two others. The first has no name, the second is called De los Gigantes, or of the Giants, because here they were begun to be seen, and they reach all along the straights. The famous river called De la Campana, enters at a place named El Ancon sin Salida: this name was given to the river, because its two arms seem to form the shape of a bell. There are two rivers more before you come to the straights, to wit, that of De los Paxaros, or of birds, by reason of the vast quantity of them that were upon it, in that part which comes towards the straights; and the other of St. Victorian, called so from the opening, to which the same saint gives its name. As for the other rivers which run among the islands, and those which empty themselves into the straights, they are many, and shall be described in their proper places.

Hitherto we have described the rivers of most renown of this long extended kingdom, which run from east to west, and empty themselves into the South Sea; those which run from the opposite part of the Cordillera, towards the North Sea, are not so well known, because those parts are less inhabited, at least, by such as can give us a good account of them. The most remarkable of them are those of St. John, and of Mendoga, which are very large rivers, and empty themselves into the famous lake of Guanacache.

The governor Hieronimo Lewis de Cabrera, a gentleman of great valour and merit, met with several great rivers in his passage over those vast plains called the Pampas, where, as at sea, people are fain to travel by the compass, not to lose themselves: he was in quest of a nation called the Cessates, of whom we shall treat hereafter in its proper place. They were forced to pass many great rivers, and, without doubt, there are many more as far as the Pole.

Nevertheless I am persuaded, that these rivers do not equal those which run opposite, and enter the sea on the coast of Chile; and this may be clearly gathered from the difference which may be observed in passing the Cordillera, between each side of the mountain, which is so great, that they seem two different worlds, the east and west parts; and one would think Heaven had put these mountains to divide them as a wall, and keep off from the west, all the storms and ill weather of the east, where are the provinces of Cuyo and Tucuman, not to disturb the serenity and tranquillity of Chile and the western parts. Any one that travels to the top of the high chain of mountains, may experience this clearly; for there he discovers both horizons, and when he looks to the east, all is covered with gross vapours, which seem to hinder the light, and shadow all the country; and at the same time looking west, the heaven is so crystalline and bright, that it causes pleasure and joy to look on it. The east side is full of a cloudy thick air, which engenders storms and hail, with horrible thunders and lightnings.

nings, which fright all the inhabitants : on the other side, in the west, there is not a cloud to be seen, but clear and bright, as if the heavens themselves were such a partition as the Cordillera to divide the climates, as that upon earth does produce a difference in the trees, plants, and animals on each side.

A curious observer contemplating once, from this height, this so remarkable difference, said, that nature, in the fabric of this part of the world, seemed to have turned her back upon the eastern provinces, and looked with her face only upon Chile, giving blessings with both hands to this last, and leaving the other, as it were, disinherited, and grieving at the pre-eminences of its elder brother. In going down to the eastward there are fewer fountains and rivers, and those muddy, the face of the land melancholy, without so much as one green tree to recreate the sight, nor any pleasant verdure ; and when at last there is some, as in the valley of Uspallata, the heats begin to be so intolerable, that all things seem afflicting and unkind. On the other side, when we go to the west, it is quite contrary ; for as soon as we begin to descend, we meet with lovely springs ; the trees are green, the groves frequent and pleasant, and the little valleys, which are like so many resting-places in that great stair-case, where passengers take breath, and are refreshed with the verdure and flowers of them, the air still grows purer and purer ; and the more they come down, the more they leave behind them all the inclemences of the climate of the other side, enjoying the advantages of the temperate Chile ; for from the very foot of the mountains one feels the mildness of the sea-air, and one is rejoiced with the harmony of the birds, and other delightful objects, so as to forget the trouble and danger of the way one has passed.

There is the same difference in the very land at the foot of the mountains ; for on the east side there are a few fountains ; the land is barren, and little cultivated ; neither are there flocks of any kind either fed or bred, so that the fields look like a useless barren ground, except it be that the thinness of the people has not as yet given way to try the fertility of the earth ; for the plains below these are extremely fertile, where they are cultivated ; but at present there is nothing but thorns and barren dryness in those parts.

It is not so to the west, where fountains break out continually, which in the winter are temperate, and in the summer as cold as ice, and that so much the more as the weather grows hotter and hotter. These springs do so fertilize the fields at the foot of the mountains, that they keep the earth fresh and green all the year, though it be but a patch ; for most of the ground is woody, and there is such a variety of wild trees, that one would think they were arbors and groves planted by the hand of man : many of these are loaded with fruits of the country, of which the Indians make excellent drinks, and some of them are very good to eat. The valleys are full of odoriferous beautiful flowers, brought forth by nature, without any human industry : there are also among them most extraordinary physical plants of a beautiful aspect. The little hills and plains afford excellent pasture for all sorts of cattle and flocks : there are also admirable valleys for planting of olives and almond-trees, and all sorts of fruit-trees. At the lower part, about a league in the plain, there are vineyards, of which are made excellent wines, particularly moscatells, which are in great esteem.

There are likewise in this descent of the mountain, admirable pastures, where great flocks are bred, and do increase wonderfully ; their flesh is extremely savory, and the milk of the goats is so fat, that by only boiling and stirring it gently over the fire, I have seen it grow as thick as if flower had been put into it ; and yet in other parts this milk is of its nature very thin. This may be said particularly of the young she-goats ; and the milk thus boiled has a sweetness and delicacy which passes ordinary milk,

even with the things that are put in to mend it; all which are arguments of the great substance and nourishment of that land.

# CHAP. XI. — *Of the Effects produced by the great Snow of the Cordillera.*

WITH the first rains of the winter, which are about the middle of May, the Cordillera begins to be covered with snow, and to put on, as it were, a white-armour, to hinder its being passed, not only by men, but even by animals and birds, which are so driven out of it by the rigour of that season, that there is not one remaining in it.

Even the Silguerillos, and Sorfales, birds which of their own nature are so hot, that in the very beginning of the summer they take to the mountain, as soon as they perceive that the winter draws near, come in flocks down to avoid its rigour in the mountains; and then it is that the taking of them is easy, and that as soon as the cold pinches, the ground being almost covered with them, it proves the season of most pleasure for the youth of the country, who going out, take so many of them, either with glue or nets, that they carry loads of them home, reserving those of the finest colours to put in cages, for their harmony is very sweet. The Cordillera is shut up five or six months in the year; so that till October or November, it cannot be passed without manifest danger of one's life; and in the midst of winter not at all, because all the paths and ways are covered with snow to the height of many yards; and if any one should be rash enough to attempt it, he would, after a little going, sink in every where, so that he would not be able to go a step forward or backward, as has happened to several, who either for some very pressing concern and interest, or flying from a death which threatened them for their crimes, have found it in these deserts more certainly than perhaps they would have done in the prisons where they feared it.

These are buried, not in sepulchres whitened on the outside, nor under cold marble, but in the very bosom of frost and snow, which preserves them without being embalmed, and yet keeps them as incorruptible and dry, for so they have been found after many years; for such is the cold of those mountains, that it dries up all the moisture that can cause corruption in dead bodies, and so preserves them.

This so insuperable difficulty of passing the Cordillera, is less at the entrance, than the end of the winter, because the drifts of snow are not then so violent as to shut up the ways entirely; for in those seasons some do venture to pass, though never but with great danger, and upon urgent occasions; if sometimes they are so lucky as to get off well, because they meet with a clear sky, yet at other times it costs them dear; and it is always with infinite labour that they get through.

I have seen others who escaped with their lives by God's mercy, because the storm caught them before they were too far engaged in the mountain, and so they could yet make a retreat to the low countries; others have been forced to open their mule's bellies that they ride on, and hide themselves in them; and by that warmth, and other defence of clothes, they make a shift to get over the storm of snow, if it does not last long; after which they gain the plains on foot, if they are not too far engaged, and so avoid the danger, but not the long-sufferings which follow generally after such adventures.

In short, every body has some story to tell of the mountain, and complain of it; for some lose their toes, others their fingers; and some their sight; some are benumbed and lamed, and so remain all their life with great infirmities. And I do not wonder at all

all this, because though one should pass without a storm, yet the cold is so terrible, that it cannot but injure nature extremely in that season, since even in the midst of summer, when we pass this mountain, and in the lower part of it sweat with heat, as soon as we come to pass the top, we are forced to put on double cloathing, and prepare the stomach with good warm things, to withstand the sharpness of the cold, and the subtileness of the air, which penetrates the body through and through, if it be not well covered.

Among the several times that I have passed this mountain, one was in the beginning of April, when autumn in those parts is at an end, and the winter begins to threaten, and I must own, that the cold was so intense, that it seemed a different species of cold from all those I ever felt either in India or Europe; though even then it had not begun to snow, the cold was so fierce that it made one's hands cleave; nay, it had an effect upon the very rocks, for I remember the sun was reflected by them as by a looking-glass. When we come to treat of the first discovery of this kingdom, I shall relate what was endured by the Adelantado Don Diego de Almagro with his army, and by those who afterwards followed him, and passed this mountain, in which they were so ill-handled, that some were struck blind, others lame; some lost their fingers without feeling it, because the excessive cold took away all sense; some were frozen to death, and with them some horses, whom six months after some other Spaniards found so fresh and well preserved, that they eat of them; and to secure themselves from cold, made a defence of those dead bodies; nay, some got into them. About six years after, others going that way, found a Negro, who at that time was frozen to death, leaning against the side of a rock, with a led horse, and the reins in his hand, though consumed with time. They who have a mind to know more particulars, let them read Don Antonio de Herrera, Decade 5. Book 10. Chap. 5. and also Gareilasso de la Vega, in his first tome.

It is necessary to understand, that it is of this cold of the mountain that authors speak, when they say, that the cold of Chile is so severe, that the rivers are frozen up, and men frozen to death in the fields; for this is only true of those uninhabitable mountains, where I believe at that season the rivers do not run, but are turned into chrystal; and if any springs do escape, they are very few, and that in the valleys most secured and sheltered; that appears by the rivers which run in the plain country, which are almost dried up, in comparison of the quantity of water that they carry with them in the summer.

And thus the truth of what historians relate may be saved from contradiction; for they not knowing the country, make no distinction between the mountain and the plains, in which there never was seen any such effect of cold in any part of them; for the sea air, which is thick and moist, tempers the sharpness of the blasts from the Cordillera; and for this reason it is, that the colds of Pampas of Cuyo and Tucuman are so insupportable; as also those of Buenos Ayres, which being at such a distance from both seas, and not enjoying the warmth of its vapours, the air in summer is intolerably scorching, and in the winter so cold, and for want of rain so dry, that it is common for animals to be found dead in the fields, as well as the men too sometimes.

CHAP. XII. — *Of the Fountains which rise in other Parts of Chile, besides the Cordillera.*

BESIDES the rivers and springs of the Cordillera, there are others which rise in the plains and valleys, which have admirable properties. I shall mention some, for it is impossible to rehearse them all, nor can I remember but a few. First, that which rises at the foot of the high volcano of Villa Rica, so famous in that kingdom for its terrible effects, for which God Almighty makes himself to be feared and respected by mankind; rises, I say, at the foot of this mount with such force, that it springs out of the earth in two sources, each as big as a man, and sufficient to form alone a good stream, and runs into a lake which is made by its waters.

In another lake, out of which comes the river called Rio Chico, there rises also a fountain of hot water, most efficacious for the cure of leprosy, and all contagious infirmities. There is another springs up in the Maguey, yet most admirable; for there are two sources just by one another, the one of hot, the other of cold water; the hot one is so hot, that no one can endure his hand in it; the cold one is let in to temper the bath which is made for the sick. The baths of Rancagua are also very famous, and like these; which, for being near St. Jago, and in the greatest intercourse of the kingdom, are very useful, and much frequented. There are others in other parts; but not remembering them distinctly, I can say little of them. Among the fountains, that of Ramon is very famous, as well for the goodness, as abundance of its waters; which is such, that they alone are sufficient to water many fields: it is about two leagues eastward of St. Jago, and in that district. There are many others, among which, that of Caren is worth taking notice of: it springs in a beautiful meadow, of about five or six leagues in length, affording a delicious prospect; its water is very sweet, and enters into the meadow; the earth of which is so porous, that whoever treads hard upon it, feels it shake under him: it is all the year green; and the grass is a kind of small trefoil, called by the inhabitants Caren, and is pleasant to eat. Neither ought I to pass over in silence another fountain between these two, very plentifully furnished with delicate sweet water, which is always so much the cooler, as the weather is hotter; it is called the fountain of Mayten, by reason of a tree of that name, which grows at the foot of a great square table of live rock, where people use to go and eat their collations, the tree sheltering them all the while from the heat; for it is a tree whose leaves are green all the year, something like a myrtle, but much larger, and without dispute of a more beautiful green: by its foot runs this fountain, whose source is a little higher in a valley, from whence it comes murmuring upon pebble stones, and among pleasant groves full of beautiful herbs and flowers.

The trees, though wild, yet bear very favourable fruits of that soil; and in them are great variety of birds, who, with their harmony and sweet notes, make the entertainment more delightful for those that frequent the place. It is not the least part of their enjoyment, to discover at the end of these woods a prospect for many leagues over plains, which being of so great extent, many of them lie uncultivated; so that among the vineyards and plowed lands, the wild uncultivated part is so beautiful, particularly in the spring, that one would think art had helped nature. There are in one place great spots of yellow flowers, which cover the earth, so that for a great space nothing else is to be seen; then you have white, blue, lillemot spots of the same proportion; the green meadows mingle in this with the waters of the river Mapocho, which is seen from this distance sometimes entire in its bed, then divided into several

arms, and at last drained into the fields of the neighbouring grounds, to fertilize them. The prospect is terminated with several farms, which are called Chacras, with their churches; and in the midst of all, the city of St. Jago, the capital of Chile, which being not above two leagues off, and the heavens so serene, the towers of it are easily distinguished, and the bells heard sometimes.

This district is full of a many more springs, all within the compass of a mile of each other; and their waters are excellent and healthy.

That which is to the north of the city of St. Jago, called Conchalli, is likewise highly commended; it springs in a little valley, called the Salto, or Leap, because of the fall of the river Mapocho. This river comes running in a plain to a certain place; where being divided (for it is the work of industry) into two branches, the greatest of which runs in its natural channel, the lesser is derived to water this valley; which towards the west is even; but towards the east the land is so high, through which the river runs, that it is two or three miles from the bottom of the valley to the high grounds, from whence the river falls. It is precipitated with great noise, making lovely and various cascades by the rencounter of the rocks and other obstacles, which by their strait passages retard its course, till at last it comes entire to the valley, and is divided into cuts and channels for the watering it; which is not ungrateful, to make a more than ordinary return to those who cultivate it, not only in corn, most excellent wine, and most savoury fruits of all kinds, but also it ripens them above a month before any other place thereabouts; and it is very remarkable, that in this valley, which is only half a league from the city of St. Jago, the figs use to be ripe in it, when in the gardens of the city, and all its neighbourhood, they scarce begin to change colour: therefore, as well for this as for the game it affords, of partridges on the hills, and wild fowl in the waters and ponds of it, it is the greatest entertainment all those parts afford.

I shall not dilate upon more of these fountains, which are so frequent; for if I were to mention them all, I should never have done; for since those alone of the Concepcion, Arauco, and the country of the limits upon the warlike Indians, would require a large treatise, besides those of the district of St. Jago, what would it be then in the territories of the ancient cities, which are yet farther in the country? for it abounding extremely in rivers, it is to be presumed that it must be so in fountains and springs; all which proceeds from the abundance of moisture of the Cordillera.

Of these springs, the most agreeable for their good waters are the farthest off from the Cordillera, because they are more purified by a long motion, and refined by the good qualities of the earth they run through, particularly the mineral impregnations are singular: I cannot but mention one, which is in the novitiate of the company of the Jesuits of Bucalemo, whose waters are not to be matched, at least I never met with the like; for without drinking them, one may discover by the touch their nobleness, their softness being like that of new butter; and they do make the hands that are washed in them in a few days smooth, and thereby prove their vast difference from other waters.

This fountain springs in a little valley, very pleasant, under some hills, about a league from the sea; and it bubbles up between a white sand, in which there is gold, as if it had a fire under it to make it boil. It is wonderful to observe, that if they throw any bough or flowers upon it, it seems to take it ill, and never is at rest till it has swallowed it up, leaping up against it several times, till it has made it his own, and hid it from our sight; and this it will do for a whole evening, if they continue throwing flowers or branches of trees into it, without any body's being able to tell what becomes

The effects that this water causes in the stomach are admirable; it helps to digest the meat with more easiness; it destroys crudities, dissolves phlegms and gross humours, and evidently prolongs life, especially to old men. This was most particularly made clear in the person of the famous Captain Sebastian Garcia Caretto Chumazero, the founder of that novitiate, who lived there many years, and came to be ninety years old in good health, and so vigorous, that he did to the last go on horseback through the woods and mountains, as if he had been a young man. I heard him say many times, that this fountain was his life; for as soon as he found himself any ways out of order, he sent immediately for the water of it, and drinking it fresh from the spring, he used to go to bed upon it; where falling asleep, he would after some time awake well disposed: this I have often been witness of. The old Indians thereabouts experienced the same, and did attribute their good state of health to this spring, without using any other physick or remedies.

CHAP. XIII. — *Of the Lakes of Chile, and the Salt that is gathered from them.*

AFTER having treated of the fountains and rivers, it seems natural to treat of the lakes and standing waters formed out of them, and by some inundations of the sea in winter, when it fills them, and leaves them provided for all the summer. Those made by rivers come first in rank; and I wish my memory would serve to place them here, with their several qualities. Omitting then to repeat what we have said of those of Aculco and Pudaguel, which being near St. Jago, make the greatest diversion of its inhabitants, we will begin with the lake of Tagataguas, about fourteen leagues from that city, and which once was more in esteem; for the trouts caught there are of a large size, and the game for wild fowl so much more diverting, that there is no comparison between these waters and others. I do not describe here particularly the variety of wild fowl, because I intend to do it when I treat of the variety of birds of this country. The lakes of Villa Rica are of great renown, though I confess I know little of their properties.

The lake of Puren has been famous, having been an impregnable fortress for the warlike Indians our enemies, by reason of the disposition and qualities of its situation; for from thence they have for many years maintained a war with whole armies of Spaniards, without being subdued: their advantage lay in this; that upon any rout given them by us, they had here a most certain and safe retreat, which, when once they had recovered, they were out of all danger; for none could hurt them either by sword or fire.

The sea lakes are also many, and of great profit to their owners; for the fisheries in them are much more certain than in the sea: for which reason they furnish the best part of the Lenten fare, though the sea affords a great deal too. Among the rest the lake of Rapel brings a great revenue: it runs in length above two leagues within the land. In the winter time the sea is joined to it; for by its storms it forces an entrance, but it leaves it full of all sorts of fish; which, with those that are bred there, furnish it for the whole year, and enable it to supply all the neighbouring country; and that not only with fish, but with salt too in abundance; for, about January, the communication ceasing between it and the sea, when the sun is at its hottest in that climate, the water is congealed so, that it has a crust of a foot or more thick of a most excellent white salt. This, indeed, does not happen every year; for it requires an extreme heat to do it, the lake being deep, and the climate there more inclining to cold: but they provide themselves

themselves in one, for many others; and the salt-pits made by hand seldom fail; for they not being of great extent, the water that is let into them turns to salt with less heat, the matter to be congealed being less in itself. And since we are mentioning salt, I cannot omit to relate what I myself have seen in the valley of Lampa, which is about three leagues from St. Jago; and it is this, there grows there an herb, not unlike to Sweet Basil, only its green is upon an ash-colour, and not so gay; it rises about a foot above ground: this plant, in the summer, is covered over with small grains of salt, like pearl, which is congealed upon its leaves, either from the dew of heaven, or by some vapour raised by the sun from that earth; or else the nature of the herb itself is such, as to sweat out this humidity, which being afterwards congealed by the heat of the sun, is turned into salt. Let the cause be what it will, the effect is seen no where but in this valley, and upon that species of herb; which is therefore much valued by the Indians, the salt of it being more savoury, and of a finer flavour than any other.

I cannot tell whether Johannes de Laet means this in his description of the new world; for having mentioned the kingdom of Chile, to which he gives the preference for its excellent properties, he says, that in that kingdom, in some of its valleys, there falls, at certain times of the year, a dew so thick upon the leaves of the plants, that it is like sugar, and serves, being kept some time, for the same use as manna. Antonio de Herrera reports the same thing, in his General History of the West-Indies; and, amongst other commendations he gives this noble kingdom, he relates the same thing of this strange and admirable dew. I say upon this, that I know not whether they allude to what I have reported of the valley of Lampa by my own sight, and have no knowledge of that other thing they mention; though one would think, such authors should distinguish things so different in their effects and flavour, as salt and sugar. It is possible God may have done both, having been so wonderfully liberal to that country, where the singularities are so many and wonderful; and it would therefore be no wonder some of them should not be known, especially considering that we, who are there employed for the conversion of souls, have not time to search after curiosities, and secrets of nature.

#### CHAP. XIV. — *Wherein is treated of the Sea of the Kingdom of Chile, and of the Etymology of its Name.*

THE fountains, springs, rivers and brooks, carry us along with them naturally to the sea, where their course ends, and where there is room for my pen to exercise itself, if the brevity of this narration did not confine my flight: I must therefore be content to say something of this element, that the nature of it may not be unknown as to this new world.

Beginning therefore with the etymology of its name: It is well known that all commonly call it the South-Sea, because it is towards the antarctick pole, from whence generally the south wind blows, in opposition to the Tramontano, or north, which reigns in the ocean as far as the arctick pole. But leaving these disputes to the schools, or rather to that abyss of Divine Wisdom, *qui profert ventos de thesauris suis*, it is a known truth, that the effects which the wind of the arctick pole causes in its jurisdiction towards the opposite part, the same is caused by the south wind in its motions from the antarctick towards these parts.

In Chile we look upon the south wind as a favourable wind, as in Europe the north is in the same esteem. The north with us covers the heavens with clouds, causes tem-

pests and storms at sea, and makes all the land dark and sad : the south, on the contrary, clears the sky, serenises the air, and makes the sea as calm as milk : on the contrary, this same south wind, in the north sea, is stormy, and covers the heavens with clouds, and raises those tempests, which do so endanger ships ; whereas the north, called there Tramontano, clears all again, and makes the fine days.

From hence proceeds, that in America the south wind reigns in summer, when the sea is calm, and the north in winter, when it is tempestuous : the north does most certainly bring with it the rains, particularly from thirty-six degrees to the pole, and that so suddenly, that sometimes, in the moment the wind comes to the north, the rain falls, and most commonly it is within half an hour after its change ; and when in those parts in winter the sun is clear, and the weather fair, it is when the south wind overpowers the north ; for the south in those parts is cold and dry, and so drives away the clouds, so as it happens sometimes that the heavens are dark ; and as soon as the clouds are discharged, if the south appears a little the stronger, it is an infallible sign of calm weather, which generally follows in a trice ; for this wind drives all the clouds so before it, that when it blows, it does not leave one in the sky.

The contrary of this is seen in Europe, where the south winds bring humidity, and the north drives it away : the south relaxes the body, and affects the head ; but the north strengthens the body, purifies the air, and dries up superfluous humours. In short, these two winds cause quite different effects in Europe and America, that we may call the Europeans sons of the north, and those of South America children of the south.

From this there follows another very notable and well-known difference, which is, that as to go from Europe to the Indies, the north is the proper wind, and carries us before it, and by consequence is contrary to our return ; so in the South-Sea, sailing from the pole towards these parts, the south is the favourable wind, and contrary to our return : from whence it proceeds, that the voyage from Spain to Carthagená being by the North-Sea, and made in thirty, forty, and fifty days, the return to Spain uses to last fourscore, and a hundred, and more days. On the contrary, in the South-Sea, where the voyage from Chile to Lima is but of about a fortnight, and as much more to Panama, or thereabouts, the return only to Lima is of two months, and from thence to Chile forty days. The South-Sea is also called the Pacifick-Sea, to distinguish it from the North-Sea, whose storms and tempests are so frequent ; whereas in the South-Sea they are rare : but, in my opinion the difference is for another reason, which I shall alledge here.

The most frequent navigations of the South-Sea are from Peru to Panama, and from thence to New Spain and the Philipinas ; and those from Peru to Chile are less used : by which it appears, that the best part of the South-Sea navigations are between the tropicks ; and so the sun has so much force, as to keep the winds from being furious, and making such lasting storms as those which are raised without the tropicks, and in parts nearer the pole ; for this reason the sailors, in these warm climates, where there never is any winter, called this sea the Pacifick-Sea, from the good effects they experienced in it. The contrary of this is in the North-Sea, where most of the navigations are out of the tropicks ; where the sun having less force, the winter predominates, and raises mighty storms. Now the Europeans who first navigated the South-Sea, being such as were used to those dangers, to which the navigators of the northern parts are most commonly exposed, when they found so quiet a sea as that under the line, and in those which particularly are the seat of commerce with New Spain, Panama, and Peru, they gave it the name of the Pacifick, without examining any further the cause of the difference

ference of the effects, which they experienced in both seas : but if they had tried that very South-Sea beyond the tropick of Capricorn, they would not so easily have named it *Pacifick*.

I know that this discourse will be approved by those who have had experience of the hardships which are suffered by the navigators, from the twenty-sixth degree of latitude on the coast of Chile, to fifty-three degrees ; for there, as soon as the winter begins, the sea cannot be navigated without manifest danger, the storms being no ways inferior to the greatest in the North-Sea ; and though at that season it is not so dangerous for ships to sail from Chile to Lima, because they every day get into a less latitude, and so enjoy a quieter sea, yet from Peru to Chile it is extremely dangerous, not only because they come into a greater latitude, and go out further to sea, to avoid the south wind's opposition, but also because the vapours of the sea and cold mists of the earth do raise such fogs and dark clouds, that they cover the land so, that when they make their port, they are in great danger of splitting upon the rocks.

This, I say, is only of those coasts of Chile which are in the least latitude ; for from the city of the Conception, towards the pole, even in summer, they are dangerous ; and the ships which are bound for the islands of Chiloe have not above two or three months in the year to go in and out conveniently, or they neither go in nor out till the year following : this is understood as far as forty-four or forty-five degrees, in which this archipelago of islands is placed ; for from thence to the straits of Magellan, those may relate the dangers who have experienced them, and passed those straits : all that I know of it is, that they all have matter enough to discourse of at their return.

So that we may say, that the name of *Pacifick* does not absolutely belong to the South-Sea, according to its whole extent, but only as to those parts of the greatest intercourse, which, because they are within the tropicks, are the freest from storms ; and yet it cannot be denied, but that the South-Sea has an advantage over the North-Sea, even within the tropicks, which is, that it is free from those great sands which are so common in the North-Sea, about Carthagena, La Havana, and other islands, nay, even in the canal of Bahama ; which indeed are so many, that let a storm be but moderate, they make it still greater, and more dangerous, by shortening the sea-room, and force the sailors to be always heaving the lead, or else to split upon the rocks, which may be clearly seen and distinguished from the ship's side.

I find likewise, that the South-Sea may be called *Pacifick* for another reason, which is, because of the extreme quiet it enjoys in its navigation, without disturbance from any of its enemies, who are so frequent on all shores of the North-Sea ; for there being no other entrance into the South-Sea, but by the straits of Magellan and St. Vincent, which are at such distance, and defended by nature itself, the enemies of our quiet do not care to engage in so useless and dangerous a design, with so manifest a destruction, and so little advantage, as hath happened already to some hereticks who have attempted it ; for having no settlement, nor landing-place in all that vast sea, they have been forced to sail to the Philippinas : therefore the ships of the South-Sea are free from any fear of enemies, and go and come without any apprehension of danger on that side. Antonio de Herrera, in the fifth decade of his General History, fol. 319, relates the motive that Magellan had to call this the *Pacifick* Sea, and that is, because there is not in all that element a more spacious career for the winds and tides ; and because there reigns between the tropicks so steady and strong a levant, that in many days the seamen need not hand their sails, nor the steersman his helm, sailing through those vast seas as if it were in a canal or river. And the same author adds, that this motion of this

wind proceeds from the course of the first Mobile, which is proved by its perpetual invariability, and the increase of its vehemence, as it draws nearer the equinox. Some dispute, whether it ought to be called a wind, or an impulse which the air receives from superior orbs, communicated to them by the first sphere. So far this author.

## CHAP. XV. — *Of the Sea-coasts of Chile, and its Ports and Havens.*

IT would be too great an excursion beyond my purpose, to mention all the ports and creeks along the coast of Chile; for they are very numerous. George Spilberg, admiral of a fleet of six sail, whose names were, the New Sun, the New Moon, the Hunter, the Pole-star, Eolus, and Lucifer, says, he observed twenty-five ports in the straits of Magellan alone, before he entered the South-Sea: he commends them mightily, but particularly he is much pleased with the twenty-fifth; for he staid in it some time, and gave it his own name: he calls it a noble port, by reason of its safety for shipping, as also for the pleasantness of the fields, which, he says, were all covered with fruit; which, I suppose, were strawberries, according to the description he makes of them. He found there likewise abundance of excellent oysters, at the mouth of a river, which beautified that port extremely, it falling into it from high mountains. But this retreat did not serve them long; for having seen some very fine coloured birds, they pursued them on shore, and hunted them; which they had no sooner begun to do, but they were assailed by a troop of Indians, with clubs in their hands, and some of them were killed, and the rest forced to retire to their ships, and set sail in haste; which is a great mark of the valour with which those people engaged them; for though they had fire-arms, they could not withstand the charge.

The most famous port in all the coast, besides that of Valdivia, which we have described already, is that of Coquimbo, mentioned in our seventh chapter; and it deserves all sort of commendation, as well for its lovely bay, where ships ride as safe as can be, as also for the pleasantness of the country about it; which is one of the most delicious of all Chile. The products of the country are particularly gold and copper, which is carried from thence to Peru; for the making of artillery, casting of bells, and other household furniture.

The ports also of Copiapo and Guasco are esteemed, and more deservedly than of Pacudo, which is a private hidden bay, where the ships of Peru come to load with the hides and tallow of Chuapa; as also with tar and tackling for ships, which is made in that valley, and is whiter and better than any in Chile, by reason of the excellent waters they make use of in its making.

The next good port to these, is that of Quintero, where the general of the six ships above-named landed; and it being a place uninhabited, met with no opposition, but refreshed his men with a large fishing which they made. They do so commend the place, that they cannot sufficiently (they say) extol the pleasantness of the land, the sweetness of the water, the security for ships, and, in short, all sorts of conveniences for human life; and after these many encomiums, the historian concludes thus, *portus hic nulli secundus*, this port yields to none; and yet this port of Quintero is none of the famous ones of Chile; by which it may be inferred, that he was but little acquainted with the rest. He could not land in them; for he found them all guarded by the militia, who expected him; and though coming to Val Paraiso, he had begun to land some men, yet, upon advice that the horse of St. Jago were at hand to hinder the descent, he took them on board again; and, sailing at midnight, cast anchor at Quintero, where they watered, and cut wood, the admiral himself landing with many

soldiers to protect his men: there they drew up a trench, with a kind of half-moon, to secure their retreat against the Spaniards, who began to appear upon the hills; but they did not stay for them, but embarking again, followed their course towards Peru, not landing any where else; but they commend the land extremely.

After these follows the port of Coucon, or Quillota, which serves to embark the product of those valleys; and hard by that, the port of Val Paraíso, where are landed all the goods brought for the city of St. Jago: from whence they are distributed all over its territory, and as far as Cuyo, and Tucuman: this port is every day more and more inhabited; and there is building a convent of Austin friars, which will be of great relief to the souls of the inhabitants, and of all those who go and come, who are not a few; for this is the port of the greatest commerce with Peru: it is distant from St. Jago twenty-four leagues, all plain and good way, fit for carriage; and so all the commodities of both kingdoms are conveyed and exchanged by it.

Near the port of Val Paraíso is that of St. Antonio, which is also very safe and good, and is at the mouth of the river Maypo. There is a mistake in authors about this; for they place the port of Val Paraíso at the mouth of a river, which they make in their maps to come from St. Jago; which is a very great error, because at Val Paraíso there is no river of any note, but only springs and fountains, which rise out of the rocks close by the sea, which are most excellent waters. There are also others of a coarser nature, with which the ships fill their provision, because they having more body, they resist better at sea against corruption.

There are several other ports between that and the Concepcion, in the bays and mouths of rivers; but not much used, because they are not necessary; all those valleys from Maule to Quillota sending their commodities to Val Paraíso. I believe, in time, other ports will be employed, because the products of that kingdom multiply apace, and so people will be willing to seek out the nearest ports for embarking their goods. All the product from Maule upwards, is carried to the harbour of the Concepcion, which is the best bay in all those coasts; and it being a very large one, Providence placed at its entrance the island of Quiriquina; under which, as under a mole, ships are secured in foul weather. At the largest entrance of this bay is the port of La Herradura, or Horse-shoe, it being in that form; and opposite to that is that of St. Vincent; and a little farther, that of Carnero, called so for the refreshment it afforded to one of the ships of the bishop of Palencia, who, by order of Charles V., passed the straits of Magellan with six sail, and having lost their Patache, were forced to the Moluccas.

Next to these are the ports of Tirva and Quedal, La Baia Chica, that of Puralla, the port of St. Cebrian, that of Santa Clara, that of St. Domingo, St. Estevan, Los Reyes, that Baixas, that of the Innocents, and many others less considerable, as far as the straits of Magellan.

Besides these ports which we have marked upon the Terra Firma, there are several others, well known in the islands of Juan Fernandes, La Mocha, Santa Maria, in the islands of Chiloe, Alfie, where the most frequented are that of Carlemapo, and that called the English Port, because formerly an English ship landed there, and the men and ship, with all its artillery, were made prize. There are also several other ports in the Archipelago of Chiloe, which I forbear mentioning, because I have not a perfect account of them.

CHAP. XVI. — *Of the Fertility of the whole Coast of Chile.*

THE abundance and fertility of this kingdom is not only perceived in its valleys and fields, but likewise in its whole coast, even on the rocks, where the sea beats. It will be hard to make this appear by particulars, because, though in other parts of the world the rocks produce shell-fish, yet I do not know that it is in such quantity, nor so large any where as in Chile, nor of so many different species. First, I will speak of that which is most common and intelligible: there grows along the coast every where an herb not unlike to endive; they call it Luche, which they pull from the rocks: it is gathered in the spring, when it is most grown; and being dried in the sun, it is made into loaves, which are looked upon as a great delicacy far from the sea, particularly in Peru, Cuyo, and Tucuman; for it serves for many sauces. It grows upon the tops of rocks, such as are above the water. At the foot of the rocks are found certain roots, which bring forth a trunk as thick as one's wrist, called Ultecueste: this they cut, and laying it before the fire, they pare it like a lettuce, or cardoon, or thistle, but it has a much different taste. From these, the trunks shoot out certain long cords, of three or four yards long, and some of about six or eight fingers in breadth: these they call Coehauyo; and there are two sorts of them, which, though they resemble one another, yet the Indians make a great difference between them, reserving the good, which they cut and dry, and make provision of them for Lent; the others they leave to the sea, which heaps them up upon the shore, where they lie in heaps very useless. So much for the herbs. Now let us speak of the sea shell-fish. The best of this kind are oysters, both great and small, so much talked of by the Hollanders with great commendations: they found them in the straits of Magellan; but the greatest plenty of them is on the coast of Coquimbo, where they are very large and delicious; the lesser sort they call Tacas, very much valued too, and taken all along that coast. But those of greatest renown are the oysters of Chuapa; in the great ones are bred pearls, as the Dutch say, and, according to John and Theodore de Brye, they bought some of the Indians in the straits very finely wrought.

That which they call Choros is also a fine sort of shell-fish, and in its shell, as Antonio de Herrera says, there are pearl very white. That sort which I have seen is not so big; but since they are to be found every where, there may be of all sorts of them; for they are caught in abundance, both little, middle size, and large ones, some as broad as my hand. The choicest of them are those which have the fish of a yellow colour, though the black ones are good too.

There is another shell-fish, called Manegues, which is in two round shells, such as serve for models in architecture; the fish within is but coarse meat, but of good sustenance. In one kind of these, which is the little sort, in opening the shell, which in the inside is like mother of pearl, when one takes out the meat, one may see the impression on the shell, of a purple colour, which represents the image of the most holy virgin, with her mantle, and her child in her arms, which causes great devotion and comfort; and, though they all have this impression, yet some have it so perfect, that it is wonderful.

A fish they call Locos may also be ranked among the shell-fish: they call them also As's Hoof, because they are of that shape: they are very savoury, but hard and indigest; for which reason they are to be eaten sparingly, though in the dressing of them they macerate them between two stones, to soften them. I should never have done, to go through all the kinds of shell-fish; as likewise of snails, which are also

good to eat, and are produced on the rocks. There are some cast up by the sea, in such quantity, that ship-loads may be had of them, of such variety of figures and colours, that I doubt not but the curious in Europe would value them, and our artists would make curiosities of them; but they, for want of such artificers, are good for nothing in the Indies, but to make chalk of, by burning them in a furnace; yet they are in such vast quantities, that the shore is covered with them, and they make a fine shew.

The shell-fish called Picos de Papagayos, are another kind much esteemed: they are so called, because for their shape and bigness they are just like parrots heads; and as these birds build their nests on shore, in some hollow rocks and caves, so this fish breeds in a kind of stone-work, hollow, like little cells, where it grows till it comes to be of the bigness of those heads. They dress them in those very nests, which serve for pots, and when they are enough, take them out. They are excellent meat.

Those which they call Kericos, though common in other parts, yet I never saw them so large as in those parts; and being taken in the increase of the moon, they have very large tongues, fat, and of about two fingers breadth.

The Crabs, Apavicoras, and Praunes, are likewise very good, and of several sorts and sizes. The Lobsters, and those of that kind, are likewise much esteemed; they breed under the rocks, and are fished for, as all the rest, not with nets, but only by the Indians going into the sea up to their middle, and knocking them from the rocks with sticks in their hands. So much for this kind of eatables. There are others which live a little more in the sea, which are of a beautiful form; some they call sea-stars; some the sun; others the moon; because they are of the form of those planets, as they are commonly painted. These may be eaten too; but they have one very singular property, which is, to cure the vice of drunkenness, being reduced to powder, and given in wine to drink; this is of so certain an effect, that those, who before they took it had no greater delight than drinking of wine, did afterwards so abhor it, that they would not touch it, though they were hired. This is a healthy remedy, as well as sure; and therefore used by the Negroes to avoid taking another; which, though as certain, is very dangerous; which is, drinking the sweat of a horse mingled with wine. They say, this puts those who take it, in danger of losing some of their senses; though I knew one, who being exceedingly given to drunkenness, his wife gave him this remedy without his knowledge, and it did him no other hurt than to make him hate wine, so that he could not bear the smell of it; but, as I said, the Negroes use the powder of the star-fish; and though I have observed, that with some it is not so efficacious, but they long for wine again after a little while, yet it is but to repeat the remedy as soon as that ill inclination prevails again; and this is commonly so practised upon the Negroes, who are much given to that vice.

#### CHAP. XVII. — *Of the various Kinds of Fish which are fished on the Coast of Chile.*

LET the whale appear first, since by its bigness it is a kind of king of the sea; and if where the king is, the court is, we may give that title to the sea of Chile, where there is such store of whales, that I know not any place where they abound more; and they are accompanied by such a court of little fishes of all kinds, that those who have navigated those seas, cannot but mention it with admiration. Among the rest, William Seerten, who came with a fleet through the straits, says, that they met with so many whales near certain islands, that they were forced to sail with great care and attention to

to avoid them, they being so many, that they were almost always in the ship's way, and endangered the loss of them, being so big that they looked like rocks: they are all along the coast of Copiapo and Guasco, and are of no small profit, by the ambergris they cast on shore. The journals of those who have passed the straits do mention much of this amber floating on the sea, and therefore no doubt but a great deal of it is on shore; but it is lost, for the Indians having no value for it, know it not; and it is but within these twelve years that the Araucana's minded it; by seeing some Spanish soldiers look for it, they did so too, and found a great deal, and very good, on the coast. Of the grey sort, which is the best, they found great pieces of an ash colour, with a nobler and more delicate smell; the ordinary sorts are yellow and black, and it has a quicker, though not so sweet a smell as the grey. I have heard the people of those parts say commonly, that the difference is very accidental, and that it depends only upon being more or less prepared by the sun-beams; and experience seems to confirm this thought; for I have observed that black does in time grow white, by being exposed to the sun in a box; but if it be laid open, so as both sun and rain come upon it, the experiment will be more manifest; and as for the harshness of the smell, it may be remedied by infusions in rose-water, exposing it first to the dews for nine days, and then to the fire, by which means it grows perfect.

Though it is known that amber is a thing which the whales cast from them, there is diversity of opinion about the manner, because some think that this noble product is formed at the bottom of the sea, or upon some rocks; and that the whales eat it for food, and not being able to endure it in their stomachs, because it is naturally extremely hot, they get to the shore to cast it up; others say, that it is the whales' excrements. It is not my business to decide this dispute. The other great advantage which the whales are of to the country, is the oil they afford after they are dead; and it is a great deal that one whale will yield; it serves for various uses of life. We do not know that these fishes die of a violent death, because their vast bulk defends them both from men, and all other animals, that may be their enemies; but yet being subject to pay the common debt of nature, when they find themselves near death, they draw near the land, and are often cast on shore by the sea, which will not bear any corruption in its waters; and it is strange to see how they are thrown up in great numbers on those coasts. The oil is made by the heat of the sun, and when the weather has consumed the flesh, the ribs and other bones remain white; and the Indians make use of them for seats; much more conveniency and curiosity might be afforded by them to other workmen.

There is another sort of fish which are found most on the coast of Coquimbo, which are not so big as whales, but yet are very large, and a good fish to eat, which are the tunny-fish, and the Albacoras, which the Indians kill with great dexterity; they go into the sea a good way upon floats of seal-skins, well sewed together, and blown up like a bladder; they carry with them a kind of trident with sharp tongues; this is fastened to a long, slender, but strong rope; the Indian guides his float near the fish he chooses, and then darts it with his trident; the tunny, as soon as wounded, goes out to sea like lightning; the Indian gives him rope enough, and follows him the way that he runs, till the fish has spent itself by loss of blood; and then the Indian draws his rope, and the fish with it, either dead or dying, and lays it on his float, and he returns to port with his prey rejoicing. There are many other sorts of fishes; one of the most extraordinary is the flying-fish, which fly with wings, and follow a ship like birds. The lion-fish is also admirable: they are found in great quantities about the straits of Magellan, near a port called Port Desire: they are very good to eat, but very

very hard to take; for though they wound them with shot in many places, yet if they do not hit them in the head, or the stomach, they do not yield: they are as big as a colt, and have a lion's head, with a perfect mane; which the females of them have not, neither are they above half as big as the males, and have a thinner skin. Those who have sailed through the Straights, talk much of these sea-lions, and do also mention many other sorts of fishes which they took there, some of sixteen feet long, very favourable and good to eat. Antonio de Herrera says, that there are fishes taken in Santa Maria, out of whose eyes they take a sort of coarse pearl, which have a gloss like the true ones, and are worn by the women; and if, as they are soft, they were a little hard, they would be better than pearls.

The sea-wolves or seals, which are found on all the coasts, are innumerable. I have seen whole rocks covered with them, and they lay even upon one another, so as some of them rolled down into the sea again, there not being room for so many: they are as big as calves, and make a noise like them.

Antonio de Herrera, in the voyage of Magellan, says, that in the river of the Cross, in the Straights, they took one so large, that without his head, skin and fat, he weighed nineteen Castilian Arrobas. The Indians take them for their skins, which are very hard and strong, and some eat their flesh. As to the plenty of the ordinary fish of those seas, the authors already cited speak very advantageously of their kinds, particularly William Scowten, who coming with his fleet to the island of Juan Fernandez, in thirty-three degrees and forty-eight minutes, the quantity of fish they met with was so great, that in a very little time they caught a great quantity of Robalos, which is the best and most wholesome fish of all those parts. They did not take them with nets, because they had not time to land, but with hooks at sea, by the ship's side, and that as fast as they could throw in and pull up.

What I myself have seen, is in the great lake of Rapel, all the sides of it covered with Pejerages, by the vast quantity of them which came upon the coast, as the droves of pilchards by the bay of Concepcion, and in Chiloe, so that they take them with blankets. I have seen the same droves of tunny-fish, which come leaping over one another's backs, as if there were not room for them; and indeed, that climate being so favourable to multiplication in all animals on shore, as shall be shewed in its proper place, it cannot well be otherwise as to the fishes.

## CHAP. XVIII. — *Of the Birds of Chile.*

THE birds and fishes seem to be brothers of the same Venter, the Author of nature having created them both out of the element of water; and therefore, to dispatch all the creatures of this country, having treated of the first, it seems that the chain of an orderly narration obliges us to say something of the others. To speak generally, it may be truly said of the air of that hemisphere, that it has a great advantage over the earth, though so fertile, so rich, and so delicious, as we have represented it; for though it is true, that it now produces the animals and fruits of Europe, with such an increase as is wonderful, yet it cannot be denied, that before the Spaniards carried thither the seeds and animals which are now so multiplied, (for they had them not in any sort; though perhaps others which supplied the want of them,) the air, without being at all enriched by the accession of foreigners, has maintained always such an abundance of the volatile kind, that it needed no supplies from Europe, but rather has many to make up any one defect.

To begin with the king of them all, the eagle: there are there abundance of them; those which are called royal or imperial have been seen here only twice; first, when the Spaniards first entered that kingdom; and the second time in the year 1640, when the Araucanos submitted their untamed necks to their God and the king; they interpreting this as one of the signs of God Almighty's will to incline them to take that resolution which they then took. As for the ordinary eagles, which do not differ much from the others, they have always been and are still in the country very common. There are likewise bred falcons, so large and strong, that for their beauty they have been carried from thence, though so far, as a present to the king of Spain; and they are commonly carried to Peru, particularly that kind which are called Primas, or first, though those called second are very large too. There are besides, all other birds of rapine and prey; and of the singing birds, there are linnets, bull-finches, nightingales, blackbirds, and many others, who form some a bass, and some a tenor, with all the other parts of harmony, beyond belief, particularly in summer under the shades of trees.

The birds for game are herons, partridges, wild pigeons, thrushes, turtles, parrots, wild ducks of a thousand sorts, some of one colour, and some of another, and all very good. The domestic tame fowls are hens, ducks, geese, turkeys; and that nothing may be wanting, swallows in summer, which go away in winter, as they do in Europe, to warmer climates; screech-owls, and other night-birds; as also bats.

These are the birds of the European kind, which are found in those parts, as well as I can remember; and there is hardly a bird here in Europe, that I observe in the fields, that I have not observed the like somewhere in Chile, with very little difference.

Who now can describe the variety of native birds of that climate? which are in such variety and abundance, that people are fain to guard their vineyards from them as soon as the grapes begin to ripen; and yet it is impossible to hinder them from doing a great deal of mischief, they being so nimble, and having so secure a retreat, though all sorts of inventions, such as guns, cross-bows, slings, scare-crows, are put in use; so that if any are negligent, they may be sure to find their vintage made to their hand. And this mischief is not only for their vineyards, but likewise for all seeds, which is fain to be watched after it is sowed, till it sprouts; and as soon as the wheat and maize begin to ripen, the guards must be renewed; for there comes whole armies of birds to attack them, and do them as much mischief as if they were Xerxes' armies.

In particular the parrots are so voracious and greedy, and have a bill that cuts like a razor: they come in flocks of such an extent, that when they rise they cover the air, and fill it with such a confusion of cries, that I cannot find any thing to compare it to. This kind of birds is bred all over Chile, in the mountains and in the Cordillera; and it is wonderful to see how exactly they come to an hour, as if they were called by a bell; or had some notice where and when the fruits were ripe, and in season for them to enjoy them: they come down from the mountains in the evening; and the noise which they make in flying, though they fly high, is such, that one would think them close by: they have a shrill clear voice, and they fly all screaming at once, so that their noise is very loud: they are all green and yellow, and have a blue circle about their neck, and very good to eat, particularly the young ones.

Those years which are to prove rainy, as the natives observe, as soon as the weather grows cool, before the winter begins, one may see every evening, for many days, great quantities of crows come down from the Cordillera into the plains: they come about an hour before sun-set in squadrons, forming a triangle or pyramid, the point of which is led by one single one, before whom none dare go: the figure they make

make is most regular, with great correspondency to each other, as if they were fixed in the air, and immoveable, so equal and well-concerted is their flight.

There is likewise a bird which we call Taltales, or Galinafos; it is like a duck, but has bigger wings; they are either black or brown, and very voracious of carrion. In the time of slaughtering, which is every year in Chile of most beasts, there is a great deal of flesh lost; then these birds come, as if one had sounded a charge to them, and fall upon the carrion with so much greediness; that having eaten their fill, they cannot rise again, and are easily knocked on the head with sticks; the bones of their legs are valued to make scissars, and their quills, which are as thick as one's finger, serve for harpsicals, and other curiosities. Out of this slaughtering-time they die with hunger; but among all the ways they have of maintaining themselves, their way of hunting young goats and lambs is admirable: they sit upon high trees, and from thence they spy the flocks of sheep and goats, watching till any of the young ones stray from the guard of its dam, as they often do, either staying behind to feed, or climbing some rock: this the Taltale quickly seeing, and that the young-one is far from the defence either of the shepherd or old-one, it leaps upon it, and the first thing it does, is to peck out its eyes, and eat its brains; which it does so quick, that though it cry, and the shepherd or mother comes to its relief, it is too late. Very like to these are another sort of bird, both as to bigness, colour and shape, and its disposition to prey; they call them Peuques, only they are something less, and of a nicer diet, being pleased with nothing but hens or chickens, which they take very dexterously; they are so bold and nimble, as to get into a hen-roost, and carry away their prey, even in presence of the owners, without being stopped or prevented.

#### CHAP. XIX. — *The same matter is pursued, and the flying of Hawks treated of.*

AMONGST the great number of birds which are bred in the lakes and ponds, and on the sea-side, which are of great variety, none are more remarkable than the birds called Flamencos; they are white and scarlet, bigger than turkeys, but so long-legged that they walk through a lake with great gravity, the water not touching their feathers by a foot or two: the Indians delight in making works of their white and scarlet feathers, for their dances and their feasts.

There is another bird, called the Child-bird, because it looks like a swaddled child with its arms at liberty: I have not seen them any where but at sea: perhaps they are the same, called Penguins, of which frequent mention is made by those who pass the straits of Magellan: they are generally painted in the maps; and they say, there are abundance of them in those parts, and that they are good meat.

There are other birds which furnish the tufts of feathers, called Herons-feathers, which though so narrow, yet are so valued, that formerly every feather was worth two rials: those which grow under their wings are larger and better, though those on their heads, which they wear as aigrettes, are very fine. There are but few of this kind of birds; for they do not increase so much as others. There are more of that kind called Garcolas, which serve for soldiers' feathers, and other ornaments. There are many others of great variety of colours, of which the Indians use to make their ornaments, called Mallengues, which are made for the head like a garland of most fine colours of wool, and in that they stick a plume of feathers, for their dances and days of rejoicing.

The birds called by the Indians, *Voytas*, are very famous among them, in whole notes, at certain times and places, they find great mysteries, prognosticating by them, either their own, or their children's, or their friend's death or sickness, or other misfortune; and they remain with great apprehension and fear. The Spaniards call these birds *Pechicolorados*, that is, marked on the breast; because there is no scarlet deeper, nor brighter, than the red on their breast: the other feathers of their wings and body are brown. There are other very little ones, called *Pinguedas*, whose body is not much bigger than an almond: these live upon flowers; and that they may come at the honey of them, nature has given them a bill, which, when it is shut, is like a needle to sew with; and for this reason they feed flying, like bees, from flower to flower, without lighting but very seldom on a branch of it, and that very slightly. These birds are of the greatest beauty imaginable; for if they were made of polished gold, they could not shine brighter: they have a green mingled with this gold colour. The males are distinguished from the females, in that they have on the head a lively orange colour, which is like fire. Those on the other side of the Cordillera are yet more beautiful, because their tail is also of the colour of their head; and though they have so little a body, their tail is a foot long, and two inches broad.

There is likewise a very odd bird, to which the Spaniards have given the name of *Wood-Pecker*; because, though they are but little, they have so strong and sharp a bill, that they form their nests with it in the trees, forming a hollow place fit for them as exactly as if they had an instrument to do it. Of these I have seen but few; but there are great numbers of a kind of birds, called *Condore*s, which are as white as ermine, and of their skins they make muffs, it being of a very soft touch, and extremely warm; but the bellies of the buzzards are much more so, being admirable to make stomachers to cover the pit of the stomach, and help digestion.

I have not seen such variety of birds on the other side of the Cordillera; and the cause, I believe, is the dryness of the land, and the want of that shelter of woods and groves which are on Chile side; but in those plains, called the *Pampas*, there are *Francolins* to be found, which are a sort of wild hens, and as big, but much better meat, and of a higher relish. There are likewise ostriches, which are a mighty bird, and very numerous there. They often find their nests, and in them such a quantity of eggs, as one nest will feed a great company; one of them alone being beaten and fried, makes a pancake big enough to dine several people: their feathers are employed for umbrellas to keep off the sun, and other good uses.

It is a pleasant sight to see the taking of the *Francolins*: the Indian, with a string made at one end into a running knot or noose, at the other, having a little piece of sharp cane fastened to it, goes out to find them, which, when he has done, he draws gently near, so as not to fright his game; when he is at a due distance, he begins to go round the bird, making with the cane several circles over his head. The *Francolin* is of its own nature a very fearful bird, and simple, and dares not rise, because he thinks he is encompassed round, but goes into the middle of the circle; where the Indian lessening still his rounds, follows it, so that at last it squats down upon the ground, and lets the Indian put the noose over its head; which, when he has done, touching it on the wing with the sharp end of the cane, the bird flies up, and draws the noose close, and so is caught like the fishes by an angling-rod.

It is not so easy to catch the ostriches; for though they do not fly, yet they have such large wings, that though a greyhound be very swift, if the bird has law of him, he will hardly overtake him; but if by chance he comes up with him by surprise, or otherwise, it is wonderful to see the art the ostrich uses to avoid his teeth; for

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when the dog is just going to seize, the ostrich lets down one of his wings, and fixes it to the ground, covering with it its whole body: the greyhound thinking he has him sure, takes hold with open mouth; but he fills it only with feathers, and is cheated; for immediately the ostrich, before the dog can clear his mouth, sets a running; and gets a good length before him; and often escapes, if the greyhound does not make extraordinary haste to overtake it.

This is a very diverting sport; but that which is used in Chile with falcons is much more so: not to fly partridges, for that is a known sport every where; but with another sort of bird, which the Indians call Quulteu, from the sound of its note when it sings, which sounds so. These are as big as hens, and have very large wings, and upon their wings they have, in the joining place, provided by nature for their defence, certain sharp points. The Spaniards call these birds Friers, either because they always go two and two, or three and three, or because the colour and order of their feathers is so, that one would really think they have a hood and a frock.

For this sport it is not enough to have one Falcon, but there must be two, and those very well taught, and dexterous to assist one another. There uses to be very good company to see the engagement, as we may call it; for it is worth seeing. Coming then to the place these birds haunt, which is generally some meadow or watery ground, (for that they never forsake, their last defence being in the water, as soon as they are sprung) one at a time, the sportsman flies one falcon at them, who, as if he minded not his game, endeavours to get as high as he can, and get the wind of his prey, who, at the same time, does the same thing, and contends for place with his enemy; so that they both get almost out of sight; but at last the falcon having the better wing prevails. When he has got advantage enough over him, he comes down upon him like lightning; but the Quulteu defends himself, either by avoiding the blow, or by opposing the armed points of his wings; upon which often the wary hawk is wounded in the breast. When the sportsman sees the engagement last too long, fearing his hawk may tire, or be balked before the victory declares for him, he looses his other falcon to help the first, which being fresh, soon joins his companion, and both together fall upon the Quulteu, but not at the same time, lest they should hinder one another: one gives him a blow, and then the other another; and so, though he make a good defence, he is forced to yield, which he does, by making away for the water, where he has his last retreat to defend his life: here he expects his enemies upon his back, with the points of his armed wings turned towards them: the Falcon despising the danger, comes down with all his force, and seizing her with one foot, tears her to pieces; but it is not without receiving sometimes dangerous wounds. The victory does not always cost so dear; for that is according to the strength of the contenders. I omit the shooting of wild-fowl in the fens and waters, which is nevertheless very entertaining, as are likewise the Indians' ways with nets, nooses, arrows, night-lights; nay, the manner of catching the Falcons themselves is as diverting: it is done with fine nets, in which they involve them, that they may not hurt their wings.

This is sufficient about the birds; and since we are in the region of the air, so near heaven, let us say something of it before we come down to the earth again.

CHAP. XX. — *Of the Heaven, and Stars, which are proper to the Kingdom and Region of Chile.*

IT is the common opinion of all those that have seen and dwelled in Chile, that its soil and heaven, if they have their equal, have not their superior in the world; and though some say the stars of the arctic pole are larger than those of the antarctic, yet as to their brightness and beauty, and the light they give, and as to their numbers, with the clearness of the heavens where they are, there is none but must own the advantage on the side of the antarctic. We may give, as a natural reason of this, the temper of the climate, both as to the air and earth; for though there are in it so many rivers, as we have observed, yet they being rapid, and swift in their course, do not cause overmuch humidity by their stay, but afford only what is necessary for its fertility; and, of the two extremes, the country is rather dry than moist, particularly as far as thirty-four or thirty-five degrees, as is manifestly made out by two experiments: first, by the facility with which all wounds are cured, which use to be much longer in wet countries; and, secondly, it is proved from the habitations and houses, where the best apartments are reputed to be on the first floor, they being looked upon in summer for coolest, and in winter for warmest; and, though they are watered every day in the year, and the floors most commonly but of earth, not at all upon vaults, yet they are never unhealthy; and there is no need of board-flooring, or mats, let the winter be never so sharp. This is a convincing argument, that the country inclines to dryness rather than to humidity; from whence it follows, that the sun raises fewer vapours; and therefore the air being clearer, the brightness of the stars is more conspicuous; and for this reason the sun sets and rises so glorious, casting out resplendent beams of light, which is not so on the other side of the Cordillera; for there I have seen the sun pretty high, and its whole body visible, and yet no ways dazzling; the vapours of the earth taking away the radiant beauty of its beams.

The experience of this is yet more admirable to those who sail from Peru for Chile; for though they keep out a great way from land, yet they know presently by the horizon when they come to the height of Chile; for they begin to see it all disengaged from clouds and serene, gilded and glorious, and its beauty increasing upon them every day, as they gain more height towards the pole. On the contrary, when they sail for the line from Chile, the nearer they grow to the tropick, that light and splendor grows duller and duller; so that in my voyage for Panama, I saw all the horizon muddy, sad, and clouded, which continued till I got to the Havanna; where being in eighteen degrees north latitude, the horizon cleared up and grew every day better and better, till we got to Spain.

So much for the clearness and beauty of the heavens and stars, which may be confirmed by all those who have seen the place; but it is not of the bigness of the stars. The astrologers pretend, that the contemplation of them, and their measure, belongs entirely to their art, and understanding best the disposition of the celestial sphere; but, in my judgment, they who can best speak of this matter, are those who have seen both poles, as is well observed by John and Theodore de Bry, in the eighth and ninth part of their twelve curious books, where they relate variety of histories, observations, and voyages, which have been in the North and South America, as far as the straits of Magellan. They report then the opinions of learned men, who, in sailing on the South-Sea, observed what I shall here produce, translated faithfully from their elegant Latin into our vulgar tongue, in these words:

“ The learned of our nation, who have sailed on the South-Sea, do relate to us many things of that sky, and its stars, as well of their number, as beauty and bigness; and my opinion is, that the stars we see here, are no ways preferable to the meridional ones; but rather do affirm, without dispute, that those stars which are near the antarctick pole are more in number, and brighter and bigger.”

He adds, besides, speaking of the stars of the constellation of the Cruzeiro, that their splendors and beauty are extraordinary, and that the Via Lactea, or Milky-Way, is much brighter in these parts. This is all from those authors.

Peter Theodore, a most skilful pilot and astronomer, relates in particular the stars of that hemisphere, and the fourteen figures or constellations they make. The first is the Cameleon, which contains ten stars; the second is the Indian Aspick, made up of four stars; the third is the Flying-Fish, which is made up of seven; the fourth called the Fish Dorado, is composed of five; the fifth is called the Hydra, and is of fifteen; the bird Toncan, which is the sixth, has eight stars; and the Phoenix, which is the seventh, has fourteen; the Crane has thirteen, which is the eighth; in Noah's Dove; which is the ninth, there appears eleven; the Indian Sagittary, which is the tenth, has twelve; the Peacock, which is the eleventh, is composed of sixteen; the Bird of Paradise, otherwise called Maucodiata, has twelve; the thirteenth is the Triangle, and contains five; and the last is the Cruzeiro, in which are four, which make a cross, with a little one close by it, which makes the foot of the cross. And though this Cruzeiro is the guide of those who sail in the South-Sea, as the Cynosura is to those who navigate the North-Sea, yet it is not immediately at the pole, but thirty degrees from it; but there being no stars of that bigness near it, it is made use of for that effect, but not for the needle; for that in either sea, whether south or north latitude, always turns to the north, though when one is in the South-Sea, the whole globe of the earth, or the best part of it, is between them and the north, according to the circle that the Cruzeiro makes. The fixed point of the pole seems to be between two, as it were, great clouds, though they are not such, but clusters of stars, not well distinguishable, such as compose the Via Lactea; and they are always fixt, without stirring; and when the heavens are clear, they are brighter, and better seen. There are other stars nearer these clouds than the Cruzeiro; but not being so big, there is little notice taken of them, but only of the Cruzeiro stars, which are indeed very beautiful, and shine with great liveliness.

#### CHAP. XXI. — *Of the Animals, as well proper, as new comers to the Kingdom of Chile; and also of the Bezoar-stones.*

TILL the Spaniards came to these American parts, there never had been seen in them either cows, horses, sheep, hogs, house-cats, nor rabbits tame or wild: nor dogs, except those called cur-dogs; but no hounds, greyhounds, nor other dogs for game, either by land or water; no mastiffs, nor little dogs, which we call lap-dogs; no goats, nor asses: but as soon as the Spaniards were settled in Chile, and found the land so proper for the breed of cattle and flocks, they have increased them to a degree of superfluity; so that there is not only enough for the support of human life; but also for those animals who are carnivorous; for, as we have seen above, in the slaughtering time, much flesh lies waste in the fields, so that it is necessary to burn it, and throw it into lakes and rivers, to hinder its corrupting the air. That which in other parts is called a calamity and desolation of the country, which is a murrain among cattle, in Chile

Chile is thought a necessary purge of the too great abundance of it. This may seem a paradox ; but yet is founded upon experience, because the cattle increasing as it does, and the land being so good, that it fattens them to a wonderful degree, (there being often taken out of one cow an hundred and fifty pounds weight of tallow, each pound of sixteen ounces,) there is enough to do to get a vent for it. The same may be said of the hides ; for though Peru, where the best part of the consumption is made, is so great, yet such is the product of Chile, that it wants another Peru to consume it ; for this reason it is a gain to lose the increase of the cattle, for then the profit is more, with less trouble and cost of servants. In the beginning of the settlement in Chile, Don Antonio de Herrera says, that horses were commonly sold for a thousand pieces of eight a horse ; and Gareilasso says, that at first a horse did not use to be sold in Peru at all, except upon the death of the owner, or upon his returning to Spain ; and in that case they were sold for four, five, or six thousand pieces of eight a horse. He says, he himself knew a soldier who had an excellent horse, and that a negro going one day by with him in his hand, a gentleman, who saw them, sent to offer the soldier ten thousand pieces of eight for the horse and negro, which he refused with contempt : but since that time horses have multiplied so, that there being not people enough to feed and tend them, they are fallen extremely. The cows too have increased so as to cover the fields ; and it is a wonderful thing to see in those great plains of Tucuman and Buenos Ayres, vast herds of them feeding, without any other master than the first that will take them if he can. I have seen in Chile, in the territory of St. Jago, horses already dressed for war, sold for two crowns a-piece, to supply the army, and yet for shape, courage, and good qualities, they yield to no Neapolitan horse I ever saw ; no, nor to the Andaluzes, from whom they are descended ; for they have had no reason to degenerate in so good a land. The cows too, which were at first out of all price, I have seen sold for a crown a piece, and the calves for half a crown : the sheep, such as I have seen bought in flocks for Cuyo and Tucuman, have been sold for three-pence, or three-halfpence a piece.

Theodore, and John de Bry, do mention some author who says, that rats were likewise strangers to Chile, and were carried thither by an Antwerp ship that passed the straits of Magellan : they must not mean the ordinary house-rats and mice, but those great ones which have a large tail, and are about a foot long : they are called Pericotes, and are very mischievous. This ship, without doubt, took port in some of those of Chile, where it left these animals, so prejudicial and hard to destroy ; for they resist the cats, and it is a stout one that can kill them. But it is a wonderful thing to observe, that though in sea-towns the magazines, shops, and warehouses, are full of them, yet they never go further into the land, which they might easily do, by so much carriage as the commerce of those parts requires. I believe the air of the Cordillera does not agree with them, and so may have killed those which have been carried by chance with goods ; for I do not remember I ever saw one in St. Jago, nor in any town far from the sea side.

Among the animals that are proper to Chile, the first may be reckoned those which are called the sheep of that country : they are of the shape of camels, not so big, nor vast, and without the bunch that camels have : they are white, black, brown, and some are ash-coloured. The authors above cited say, that anciently they served to plow the land in some parts, before there were oxen in it ; nay, in the relation of George Spilberg and his fleet, it is said, the Dutch passing by the island of Mocha, saw the Indians use them in that work.

They are made use of at this time in some parts, for carriage of wine, wheat, maize, and other provisions; and I remember to have seen them about thirty years ago serve to carry water at St. Jago from the river to the houses, for the use of the family; but now they are not at all employed there in this kind of labour, there being such quantities of mules and asses for all that service. These sheep have their upper lip slit, with which they do, as it were, spit at those who vex them; and the children, who use to do it, when they see them ready to spit, run away; for they know, and it is a common truth, that wherever their spitting falls, it causes a scab; and having a very long neck, about three feet long, they use these defensive arms the better. Their wool is extremely valued; for of it are woven cloaks or mantles so fine, that they look like camblet: they govern them by a kind of bridle, which they put through holes in their ears, and so by pulling the reigns, turn them which way they will: they kneel down to be loaded, and when the loading is well fitted and fastened, they rise and carry it very gravely.

There are likewise natural to that country a sort of little rabbits, called by the Indians Pegues, which they eat with much pleasure: they are wild. The taking of them is very good sport: for they carry water in great tubs to their holes; and though they are very deep, and have secret issues and correspondencies with each other underground, to avoid being pursued by the hunters or their dogs, yet the water overcomes them; and while they fly from it, the Indians watch for them at their other holes, and with their dogs take them as they come out to avoid the water.

There are another sort of little rabbits, which are like these, but they are tame, and the Indians call them Cuyes, which are also very good meat: they are of pretty colours, and spotted: they are very common every where.

The squirrels are not so; and I do not know they are to be found any where in Chile, but in the valley of Guasco: they are grey or ash-coloured, and their skins are mightily valued for furs, for their warmth and fineness of the touch.

The animals called Guanacos, Chamois, or wild goats, are very like these country sheep, as well in their shape as motions; but they are of a different colour; for they are red, of a clear colour: they never can be tamed, but go in flocks, feeding in the fields; and it is as much as a very swift horse can do to overtake them running; and if they have the least start of them, they seem to play with them; for by an easy gallop, they make the horse strain; in which they are much helped by their long legs, for by them they gain more ground at every reach: yet it is very easy to catch the young ones, or those that are not used to be hunted; because being so tall, and their bones, because of their youth, not well knit, they are easily tired; so that by following a flock of them on horseback with dogs, (and they go three or four hundred in a flock,) the young ones are forced to lag behind, and some are killed by the dogs, some are knocked on the head with a stick by the hunter. I have seen them bring thus three or four dead at a time. And this is not only a pleasant, but a useful sport; for the flesh of these young ones is like kid's flesh, and is eaten fresh: but that of the old ones is not so, but dried and smoked: it is the best of that kind in the world.

These creatures breed, in a bag they have under the belly, the bezoar-stones, which are so valued against poison, and malignant fevers, good to rejoice the heart, and other admirable effects. The matter out of which they are made, are herbs of great virtue, which these animals eat to cure themselves of any thing they ail, and preserve themselves from the poison of any venomous creature, as serpents, or poisonous plants, and other accidents.

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These stones are found in the oldest Guanacos; and the reason is, that their natural heat not being altogether so strong as the heat of the young ones, they cannot convert into their substance all the humour of the herb they take to remedy their indisposition; and so nature has provided, that what remains may be deposited in that bag, and be made a stone to cure in men the same infirmities: according to this notion one may observe, that the stone is composed of several coats, some thicker and some thinner, according to the quantity of matter that is gathered together at each time, just as a wax candle is made by several coats given it at several times to form its bigness.

It is likewise a thing well experienced, that in those countries, where there are most vipers and other poisonous animals, these stones are most plentiful; and the cause is manifest, because these animals, and the deer-kind, do beat so much ground for their livelihood, they are more exposed to venomous creatures, which, when trod upon, wound them sorely, and they run naturally to their remedy in these herbs; and as they do this more frequently in those parts where they receive most damage, by consequence there are more of these stones engendered.

From hence it happens, that in those parts of Cuyo, there is a greater quantity of these bezoar-stones to be had, than in that which we call properly Chile; for there are many vipers and poisonous creatures, of which Chile is very free, as we have said: and yet there are taken some stones here, but the greatest part come from Cuyo; to which likewise it is of some consideration, that there are bred more Guanacos and stags than in Chile; for that country being not so populous, and having such vast plains, these animals have room enough for food and for increase: but it is not so towards the sea-side of Chile, for that being very populous, and full of cattle and flocks, there is no room for the wild ones, except upon the edges of the Cordillera, from whence they come down into the plains sometimes.

The bigness of these stones is in proportion to the animal that breeds them; the most certain rule is, that if they are little, there are many in the bag, and fewer if large; and sometimes, when very large, there is but one. I carried with me to Italy one that weighed thirty-two ounces; and yet that was not it which made it the most valuable, but its virtues and shape, for it was a perfect oval, as if it had been turned by a turner: the Indian who found it had seventy pieces of eight for it; because when a great stone is found, it is not sold by weight, but according to the estimation of the owner, and the bigger the dearer.

The virtue of these bezoar-stones is very well known and experienced; and people of quality take them, not only in the time of their sickness, but also in health, to preserve it: the way of using them is to put them whole into the vessel that holds either the wine or water, or into the glass out of which one drinks, and the longer they stay in, the more virtue they communicate. And if a person be not much indisposed, there is no need of using them any other way; but if any one should be attacked by any distemper of consequence, and be sick at heart, or be affected with melancholy fits, it would have more virtue to grate a little of the stone to powder, and drink it; whatsoever way it is taken, it comforts the heart, purifies the blood; and the using of it is looked upon as a preservative against all infirmities.

There are also bred in the Pampas, or the plains of Cuyo, many hares; and one sort, called Chirichinchos, whose flesh tastes like that of sucking pigs. But the greatest increasers are the Guanacos, and the deer. It has been said already, that in Chile there are but few, for the reasons alledged; but there is great quantity of wild cows and wild mares, which came at first from some which went astray, by the negligence of the

owners ; and being once in those mountains, they have increased so wonderfully, that they are become a game, and many go to kill them, or take them for profit.

## CHAP. XXII. — *Of the Trees growing in Chile.*

AMONGST other obligations which the land of America has to Spain, one is, the having enriched it with so many noble plants, trees, and seeds, which it wanted ; for before the Spaniards conquered it, there were not in all America either vines, fig-trees, olive-trees, apple-trees, melicotoons, peaches, auberges, quinces, pears, pomegranates, cherries, apricots, plumbs, oranges, lemons, citrons, nor almonds. As for seeds, there was neither wheat, barley, nor oats, aniseed, coriander-seed, cumin, nor oreganum, lint-feed, flax, pease, beans, nor cabbage, lettuce, raddishes, cardoons, chicory, nor indive, berenguenas, gourels, melons, cucumbers, parsley, garlick, nor onion. But instead of these trees, fruits, and plants, the Author of nature had provided them with others of great use and good relish, such as maize, all over America : Frisoles, Las Papas el Madi, Los Capallos, and some others, are proper only to Peru, and the land within the tropicks ; the Camotes, Guayabas, Mammeyes, Plantanos, Zipitapotes, Anones, Nisperos, Aquacates, Pinnas, Guanabanas, Papayas, Pitabayas, and many others, which, though highly commended, do not generally come up to the relish of the European fruits. And the bread and wine has been a singular addition to them, such as the Indians value more than all their product, and particularly the wine, which is their chief delight ; as for bread, they value it, but not so much.

Though America is obliged to Europe for all this addition, yet Chile much more, as having the greatest advantage by it, and with more plenty than any other part of the new world ; for though all that we have named of European plants are to be found somewhere, yet not all every where ; for in some there grows corn, and not wine ; in others, both those, and not oil ; in others, neither corn, wine, nor oil, but other fruit-trees. The same thing may be said of the animals to eat ; some have beef, others mutton, others pork, which on the continent is a delicacy, and is given to the sick ; so that running over all America, we may find that this communication of new creatures has reached some parts for one thing, and some for another. But as for the kingdom of Chile, it may be said to have been totally obliged and enriched ; for all the trees, seeds, plants, and all the animals, &c. of Europe, are to be found there, and that almost in every part of it, for it is rare to see any thing take in one place, and not in another ; but if it does, they may easily have it from their neighbours, if it be not so good, or not at all with them.

In the third chapter of this book, we have already mentioned how all these European fruits and seeds take in Chile, but we can never enough dilate upon that subject : it will hardly be believed by most people, particularly by those, who, never having been out of their own country, are so in love with it, as not to imagine there can be any equal to it, much less exceed it ; and we relating things so distant, of which we cannot bring ocular witnesses, we are the more liable to contradiction ; but since we are writing a history, we must speak the truth as we know it, and it really is.

Some trees do not exceed in bigness those of Europe of the same kind, as cherry-trees, quince-trees, almond, peach, and pomegranate-trees, olive, orange, lemon, and citron-trees, melicotoons ; which last, in Tucuman, are nevertheless very large, and to that degree, that three or four men sometimes cannot embrace the body of one of those trees. I have seen some apple-trees as big as elm-trees ; the pear-trees are yet bigger,

bigger, and much more the mulberry-trees, and walnut-trees ; though as to their fruit, it is not so large as that of Europe, the nuts having the shell as thick again, and by consequence less meat. This is as to the garden-trees brought from Europe.

As for the trees natural to that country, they are of two sorts, the one is fruit-trees, the other not : of the first, I find only three kinds or species of those, which are likewise in Europe, which are the avellanos, or hazel-nut, the pine-tree, and the algar-rabos, or cod-tree. Of those which are not properly fruit-trees, there are the laurel, the oak, the willow, the cypress, which are in great abundance, and very large ; out of these they have boards very fit for boxes and trunks, which are no ways pieced, but of one plank ; the doors and coverings of the churches are also of this cypress-wood.

These trees grow most commonly in the precipices of the Cordillera, which being very deep, the cypresses are extremely large and tall, for they shoot up till their tops can be warmed by the sun-beams ; so that they are as straight as a wax-candle, and of so fine a smell and perfume, that though it be so plentiful, it bears a good price, and a greater in Peru, to which it is carried, as well as the cedar, which does not sell so well, because there are more of them.

These cedar-trees are without comparison bigger, and have larger heads than the cypress-trees, and of one of them are made several planks ; but more of this when we come to speak of the island of Chiloe, for there they are larger than in any other part. The colour of the wood is red when it is first worked, but in time, and by degrees, it loses that lively colour, and comes to be of a kind of walnut-tree colour ; the planks are of the fashion of cedar planks, not so subject to the worm, but more easy to work.

The oak also yields very large planks, for they thrive exceedingly, and grow very thick ; some of them are white, and the wood of them is corruptible ; others are red, and incorruptible.

The planks from the Paragua-tree are the most in use, but less valuable. The tree is a handsome branching tree, keeping its leaves green all the year : they are like elms.

The most common wood of all, and that of which there is most plenty, which serves for the covering of houses and roofs, is the cinnamon-wood. These are very large trees, of a beautiful aspect ; they keep their leaves all the year, and are like that which in Italy they call the laurel-royal. The Guayac-tree is bred in the mountain or Cordillera, and from thence has its hardness and heaviness, which is such, that it is like iron ; and the balls made of it to play at billiard, are almost as hard as the ivory ones ; the tree is no large tree, and the heart of the wood is a yellow mixed with green ; the decoction of it is good for many infirmities. The sandal-tree is very odoriferous ; there are great quantities of them in the islands which are named from Juan Fernandes ; it is a preservative against the plague, and is used by the confessors, and others, who are bound to approach infected people. There are other trees and shrubs of admirable virtue, for several infirmities, of which the Indians have a particular knowledge, and perform admirable cures with them.

The fruit-trees bred in the mountains are many, and of great variety : let us first treat of that which indeed carries the palm, not only because of its name, but that its height, beauty, and abundance, and that of its most excellent fruit, challenges the first place among all the rest.

They grow generally upon the mountains, and in precipices, so thick together, that seeing them at a distance, one would think they were a clump set by hand ; they are very thick and high ; all the body of the tree is naked till the top, or first sprout :

its nature is to lose all its old branches as the new ones come out ; by which means, the body of the tree rising free, and disencumbered from such boughs as use in other trees to grow out of the sides of them, is totally employed in feeding the top ; and the fruit which grows within it, being, as it were, a pyramid round it, to preserve it by the admirable texture of its leaves and branches which encompass it.

These palm-trees have a wonderful property, and most certain, which is, that none of them give their fruit, except they are in sight of each other ; and if it happens that one comes up alone, without a companion, though it thrive to a great largeness, yet it never bears, except another be planted by it, and this they call the female ; and as soon as the female is planted, though never so little a one, yet the great ones bear, and the second in its time, when it is big enough : I have seen the experience of this ; and it is a thing well known to all. The fruit of these trees is called Cocoas, and is like filberts, though bigger by half, and the meat within the shell is not solid, but hollow, and is, round the edge, about the thickness of a crown-piece, and in the rest of the hollow is a kind of milk, or water, of an excellent relish ; and so is the flesh of it, which is white, and serves to preserve the liquor like a viol, which stays in it till it be imbibed by the cocoa, which happens in some months ; and then they are not so good to eat as when they are fresh ; but then they are good to preserve, as almonds are, and other kernels of that nature.

Antonio de Herrera, and other authors, say, that these cocoas are good against poison ; and nature seems to set a value upon it, by the many covers in which it is involved ; first, the kernel is covered with a shell harder than that of the almond, then it has another cover of a green colour, and sometimes yellow, which is woven so close about it, and so strongly, that when it is green, it is easier to break it than to peel it off. The fruit grows close to a stalk, which sometimes will have above a thousand on it ; and this is environed by a great shell, which grows bigger and bigger with that bunch it contains, till at last the fruit makes it burst and open into two parts, which are like two boats, each above half a yard long, and two spans diameter in the broadest place, and the bunch within all of a fine yellow, very beautiful to look on. It hangs on the branches till it be ripe, and then falls to the ground, where it is gathered, and great provision is made of it for Peru ; for besides their being made a sweetmeat, the children rid the merchants of them for play-things, it being one of their greatest entertainments.

The palm-trees which bear dates do not seem to be natural to this country, but brought from abroad ; for I never saw them, as others, wild in the fields, but only in gardens.

There are other fruit-trees wild, which come in the fields, and are called Pengue ; they have a red fruit, something bigger and more oval than the filberts ; these the Indians eat boiled with other ingredients. There are also trees called Magues, which are very beautiful and cooling ; the leaves are admirable against a burn ; the fruit is black like a myrtle-berry ; it is very well relished, having a *dulce-piquante* very agreeable ; it blackens the mouth and hands when it is eaten, and, for that reason, the more civilized people do not use it so much. There are also fruits of which the Indians make their fermented liquors, whose names and properties I cannot call to mind ; only I know there is great variety of them ; and I can remember one called Quelu : the fruit is very sweet and small, between red and yellow ; of this they make a drink extraordinarily sweet. They make another drink of that which they call Iluigan, and the Spaniards, Molle ; it is of the shape and colour like pepper ; the tree on which they grow is but little, but a great bearer : this drink is very agreeable, and coveted even by the greatest.

greatest ladies. The most common drink of the Indians is made of maize, which is the ordinary bread and sustenance of the Indians.

Let us end with the tree called Murtilla; though, if we believe the authors who treat of it, it deserves to be ranked in the first place. Antonio de Herrera speaks so well of this tree in the ninth decade of his History of the Indies, Book IX., and folio 247, that I will relate only what he says, and that in his own words, which are as follows:—"There is a kind of fruit of trees that grow on the mountains, which grow from thirty-seven degrees upwards, and in those countries it is a common food; the natives call it Uni, and the Castilians, Murtilla. It is red, and like a small grape, something bigger than a swollen pea; its shape and colour is like the pomegranate grains, its smell and taste agreeable, and not unlike a grape. It has little grains like a fig, which are almost imperceptible to the tongue; its temperature is hot and dry: of this they make a wine, which exceeds all other liquors, even that of the East India cocoa, or palm-tree: neither cyder, mead, nor beer, nor all the other drinks described by Andres de Laquuna, are to be preferred to it. This wine is clear, fine, warm, and very agreeable to the taste, as well as profitable to the stomach. It consumes all vapours in the head, its heat warming the ears without going any further: it comforts and cherishes the stomach, increases appetite, and never takes it away. It never offends the head, or makes it heavy, or burthens the stomach; and it bears as much water again as wine will do. Those who have tasted it, commend its colour and flavour, as much as that of grapes. Its colour is golden, and mighty bright; and it is as sweet and good as the wine of Ciudad Real. There is little of it made, and so it lasts but eight months; for which reason, it is not known how many years it would keep. It takes up as much labour and care as wine, in the making: if it be left to itself, and without fire, it is forty days before it ferments. It casts down a lee, and works out the frothy part at the top of the vessel; and, for that reason, care is taken to scum it as it boils, and then it is drawn off into another vessel. When it is turned to vinegar, its vinegar has a better taste and colour than wine-vinegar; for it retains the colour of the fruit, which is very odoriferous and sweet." Thus far this author: from whence it may be inferred, that this land had good wine of its own; and it had also very good oil made of a seed called Madi; it is extremely well relished; but now it is not much in use, because that of olives is so common.

It is not possible to describe particularly, one by one, all the various sorts of trees that are bred in the woods and mountains of Chile; and it would take up a very large treatise, which is not my purpose; yet when we come to treat of the straits of Magellan, we will speak of the cinnamon-tree, which is to be found there, and of the barks of some other trees of that soil, which have the same taste as the East India pepper. All that I can say at present, is, that there are few of these trees that lose their leaves in winter, particularly those which grow wild in the woods, which are generally aromack, and of a very fragrant smell; and of them, all the finest of this kind are bred in the territory of the Conception. I would not have believed it, if I had not seen it; for in travelling I met with lovely groves, which bordered the highways, and cast out so rich a smell from their leaves, that the flowers of jasmin did not appear sweeter. There are also abundance of myrtles and laurels, which grow in great groves naturally; and yet among them there are trees whose leaves exceed them infinitely in the perfume of their smell; infomuch that, passing one's hand over them, one would think one had amber gloves on.

## BOOK II.

## TREATING OF THE SECOND AND THIRD PART OF THE KINGDOM OF CHILE.

CHAP. I. — *Of the Islands of the Kingdom of Chile.*

HAVING, for the better description of the kingdom of Chile, divided it into three parts, we have treated of the first and principal one, which is that which is properly called Chile, in which many things are said which are common to all the three parts; therefore, in these two which remain, we shall take notice of that only which shall be peculiar to them, to avoid repetition.

We come now to the second part, which are the islands which are spread all along the coast of the South-Sea, as far as the straits of Magellan; I say, they are many in number, and some of them very large ones; as that of Santa Maria, La Mocha, Juan Fernandes, and, above all that of Chiloe, in which is founded the city of Castro. Some make these islands fifty, some seventy leagues in length, and about six or seven leagues in breadth. In the same sea, or archipelago; there are many more, some of ten leagues, and others less; and in all, reckoning those that are within the straits of Magellan, there are above two hundred discovered.

Just over-against Coquimbo there are three, which are called Del Soboral, De Muxilonos, and De los Paxaros, in thirty degrees latitude; two more in thirty-three and forty degrees: there are eight small ones just over-against Val Paraíso, which are called the islands of Juan Fernandes; who dying, left them to the Jesuits. Then follows the island Quiriquina, which is in the bay of the Conception. Just over-against Arauco is the island of Santa Maria, in the thirty-seventh degree; and in thirty-eight that of La Mocha. Hard by Valdivia, about forty-three degrees, comes the archipelago of Chiloe, which is composed of forty islands; and hard by it is the province of Calbuco, in which there are twelve more. Those of Los Chonos are as many, in forty-five degrees; and in fifty degrees are the eighty islands discovered by Pedro Sarmiento, as shall be related hereafter.

The islands of Chiloe are reputed barren; but their soil is not really so, only the excessive rains choak the seed, and do not let the corn thrive; so that they are without wheat, wine, or oil, or any other plants which need much sun. The nature of the climate of this archipelago is such, that it rains almost all the year, so that only maize, or other such grains, can ripen, that do not want so much sun. The nourishment or diet of the natives, is mostly of a root called Papas, well known over all the West Indies, of a good nourishment; and they grow there bigger than in any other place. They have besides some maize, some fish, and particularly shell-fish, which is excellent in those seas. They have few sheep, but very good poultry, as well as hogs, and some beef; with which, and what besides is brought to them from St. Jago, and the Conception, the Spaniards, both of the garrison and city of Castro, make a good shift. This city is the capital of the chief island; in which, and in the rest, there is a great quantity of honey and wax made. And Herrera and other historians say, there are mines of gold upon the shore; and they remark it as an extraordinary thing, and hardly heard of in any other place.

The manufactures of these islands are the clothing for the Indians, who have a kind of vest which they call Macun, and it is without sleeves, because their arms are naked; and over this they put a garment called Choni, which serves for a cloak, and is like that which painters give to the apostles in their pictures. They have another commodity from their woods, particularly of the plank they make of a tree, which is a cedar, and of which they have vast woods, and in them trees of a prodigious size; for Friar Gregory of Leon, of the order of St. Francis, in his map of Chile, which he dedicates to the president Don Louis Fernandes de Cordoua del Carpio, says, that some of these trees are so big that they cannot be hardly encompassed by a rope of six yards long; and out of the wood of the boughs there has been made six hundred planks, of twenty-five feet long, and two feet broad; and that which is considerable, is, that this plank is not sawed, but cut with axes; in which there is much more loss. This author deserves belief, as well from the experience of forty-two years that he lived in Chile, as from having been definitor of his order. And what I have heard from the mouth of a colonel, who was both born and bred in that country, will serve to confirm this; which is, that if two men on horse-back are on each side of the tree, when it lies along, they cannot see one another; for the body of the trunk hinders them. These planks are carried to Chile and Peru; and in exchange they bring back provisions to live on. The islands of Chono are yet poorer than these; because, that being nearer the pole, their summer is shorter, and their rains more copious, inasmuch that they drown the earth, and hinder it from producing.

We have little knowledge of any other islands besides those of Chiloe; because the continent being so large, and yet not thoroughly peopled, there has been little occasion of inhabiting any more than some few of these islands; by which means there is but small discovery made of their qualities; though it is reasonable to think they resemble the land over-against which they lie.

As for the islands of Juan Fernandes, I will relate what I find writ about them in Theodore and John de Bry, in their relation of the voyage of John Scutten: they say then, that these two islands are very high land: the least of the two, which is the westernmost, appeared to them barren, as being covered with wood, and very mountainous; though not landing on it, they could make no judgment of the inside of the island. The bigger island, which is the easternmost, is likewise mountainous, but has great variety of trees, and much grass, with which are fed great herds of swine and goats, bred from some few which were put on shore by John Fernandes, who began to cultivate these islands as his own; but he dying, and the Spaniards finding greater advantages upon the continent, they forsook those islands, which were out of all trade, leaving their stocks of cattle behind them, which now are infinitely multiplied.

They say besides, that coming to this, which they call the Fine Island, they found a port very safe for their ships, having twenty or thirty fathom depth, the shore all sandy and even, with a delicate valley full of trees of all sorts, and wild boars, and other animals feeding in it; but they could not distinguish them, by reason of the distance they were at. They extol particularly a most beautiful fountain, which coming down from high rocks, rolls into the sea by different canals, which form a pleasant prospect, and its water is very sweet and agreeable. They saw also great store of seals, and other fish, which they caught in great plenty. In short, they were so in love with this island, for the good qualities they discovered even at its entrance, that they were very unwilling to leave it though pressed in point of time.

I do not doubt, but this is a very pleasant situation: for in its temperature, and other properties, it must be very like Val Paraiso and St. Jago, because it is almost in

\*in the same degree west; and without doubt these islands will be peopled in time, when the continent grows populous, as it does every day; for then people will be seeking new habitations; but at present they only go thither sometimes to fish, to send ~~it~~ to Peru, where they have it not so plentifully.

The same authors, giving an account of the other Dutch squadron under George Spilberg, say, that they came to the Island of Mocha, and found the north side of it plain and low, but the south full of rocks: they landed; and the good reception they found from the Indians, is an argument of the fertility of the place. Those Indians are a noble sort of people, and very good natured. When they had refreshed themselves much at their ease, they made provision of great store of sheep, which are very large, and in great plenty there, as likewise of hens, eggs, fruit, and other provisions. They treated the Indians on board, and shewed them their great guns, and their men in order for fighting: they presented them also with European commodities, such as hats, clothes, axes, and things which they valued. After this, they set them again on shore: and the Indians made signs to them to go back to their ships, as they did.

But they were very differently received in the Island of Sancta Maria, where the vice-admiral landed with some of his men, and were invited by the Indians to eat; but from the ships they saw a great army coming down upon them, as they were going to sit down to table; whereupon they made signs to them to retreat to the port; which they did, and had just time to embark. But they likewise carried off about five hundred sheep, and other refreshments, having found the island very fertile and well provided, as well as very temperate, being about thirteen leagues south-west from the city of the Conception, about thirty-seven degrees, and not above three leagues from Arauco; which makes some think, that formerly this island was fastened to the main land, and that the sea had in length of time made the division which now forms the bay of Arauco.

There is a little to be said that is particular of all the other islands to the straits of Magellan, since it has not pleased God to let them be peopled by Spaniards, and so give an entrance to the gospel; by which means the product and nature of them might be known, and many souls saved which inhabit them.

All that we know now of them, is, that in the voyage of Pedro de Surmiento to Spain, being sent by the viceroy to chastise Francis Drake, for his boldness for infesting those coasts; in his way, on this side the straits of Magellan, he discovered a great archipelago of islands, which they told to the number of eighty, which he named by several names, and took possession of them in the name of his king. He also discovered more islands in fifty-one degrees, to which he did the same. It is known likewise, that in the straits themselves there are many islands, some of which we shall mention when we treat of the straits of Magellan.

## CHAP. II. — *Of the Land called Terra del Fuego.*

THE land called Terra del Fuego, (so famous in the relations and maps we have of the straits of Magellan,) has deceived many by its name, people believing that it had been given it for some volcanoes, or burning mountains, or other subterraneous fires; but it is not so, for this name had no other occasion, than that the first navigators through the straits discovered upon it many fires and great smokes, made, as they supposed, by the numerous inhabitants of it; and so they called it the Land of Fire. There arose likewise another mistake from its great extent; for it was judged to be a great continent, of which in time the world was undeceived, as we shall see hereafter.

This land, called Terra del Fuego, is that which forms the south side of the straits of Magellan, extending itself the whole length of the straits, east and west, above one hundred and thirty leagues. Formerly, before the straits of St. Vincent, otherwise called the straits of Le Maire, were discovered, this land was thought to be joined to some other great continent of the Terra Australis, which was supposed to join to New Guinea, or the islands of Solomon; and Ortelius, in his geography, is of this opinion; but upon the discovery of the other straits of St. Vincent, that doubt has been cleared, several having gone through them to the South-Sea; and among the rest, two caravals set out by the king's command, in the year 1618, on purpose to view these straits, which it was said had been discovered by James Le Maire, which caravals were commanded by Don Juan de More.

These two vessels set out from Lisbon in the month of October 1618, and being come to the east entrance of the straits of Magellan, they passed by it, and ran along all that coast, without finding any entrance, till they came to that of Le Maire, which they went through, in less than one day's time; after which they turned to the south, and afterwards to the west: they went round all the Terra del Fuego; and sailing north, came to the west entrance of the straits of Magellan, into which they entered, and sailed through them to the North Sea. Having thus made a circle clear round the Terra del Fuego, they proved it demonstratively to be an island separate from all other land. The same was done by Sir Richard Hawkins, an English gentleman, who having passed the strait of Le Maire, sailed for five and forty days to the south, without finding any land contiguous to the Terra del Fuego, but many islands, as related by Antonio de Herrera, chap. 27, of the description of the West Indies. The same has been confirmed by several, who being driven by storms from their intended course, have been forced to run towards the south pole; amongst the rest by Francis Drake, who having passed the straits of Magellan the sixth of September, 1572, and being got on the seventh, a degree from the straits, was carried by a storm two hundred leagues to the south; and coming to an anchor in some of those islands, he there found that the sun being eight degrees from the tropic of Capricorn, the days were so long, that there was not above two hours night; from whence he inferred, that when the sun came to the tropic, there must be a perpetual day of twenty-four hours. The same was experimented about two years ago, by the fleet of General Henry Brum; which having passed the straits in April, were by the force of ill weather carried into seventy-two degrees, and cast anchor at the island of St. Bernard, to which they gave the name of Barnevelt; and it being about the entrance of winter, the days were not above three hours long, so that they expected they would still shorten till June, when the sun being furthest off from that hemisphere, would leave them in a total night; for this reason, and because of the hardness of the weather, which increased every day, they durst not winter in that island, as they had a mind, but after a fortnight's stay in it, weighed anchor, and sailed for Chile. In which voyage they made but little advance, having always the wind 'a-head, insomuch that they were a whole month doubling one cape, and lost in the endeavour their Tender, in which was the best part of their provision.

So much for the islands belonging to the coast of Chile; but having also mentioned the islands of Solomon and New Guinea, to which antiently it was thought that the land of Terra del Fuego was joined, it will be well to say something of them.

The author who writes the best of them, is Antonio de Herrera, and from him is taken what John and Theodore de Bry say of them; which is thus:

The islands of New Guinea run from something more than one degree south of the pole antarctick, three hundred leagues east to the fifth or sixth degree; according to which reckoning, they fall about the west of Payta. The islands of Solomon fall to the west of Peru, about eight hundred leagues from its coast, and extend themselves between the seventh and twelfth degree: they are distant from Lima about fifteen hundred leagues: they are many, of a good size: there are eighteen principal ones, which are, some three hundred, some two hundred, some one hundred, some fifty leagues; and less in compass. Between them and Peru, inclining to the land of Chilethere, is another called the island of St. Paul, about the latitude of fifteen degrees, and about seven hundred leagues from the Terra Firma.

The fleet of William Scowten having run along the coast of Chile in the year 1615 or 1616, from the straits of Magellan, took their course to the west, when they were about the latitude of eighteen degrees, to try to find out some new island, and found one in fifteen degrees; which, according to their computation, was distant from the coasts of Peru about nine hundred leagues. After this they discovered two more, which they called the Cocoa islands, by reason of the great plenty of that fruit that was there, that the inhabitants did use to drink the sweet liquor that was bred within the cocoas, but when it was at an end, they made a shift with salt water; to which, being accustomed from their youth, it did not hurt them. They say more, that the inhabitants go naked, though not quite; and that their way of being civil and saluting, is to give themselves blows upon the temples, which is the same as with us the pulling off the hat or cap. At first they laughed at the fire-arms, till they saw one fall much wounded, which undeceived them, and convinced them that it was not only noise which proceeded from those arms. These islands are distant from Peru 1510 German leagues, which are longer than the Spanish leagues, though not so long as the Indian ones. There were found also other islands in the latitude of twenty-nine degrees, which perhaps were those which at first they called the islands of Solomon. Others say, that there are others more to the west, opposite to Chile. Whosoever is curious enough to know the particulars of all those islands, their temperature, inhabitants, their good and ill qualities, may find them in the above-cited authors, who treat of them more at large; for my intention, it is enough to say what I have reported.

### CHAP. III. — *Of the two Straights of Magellan and St. Vincent.*

THE Strait of Magellan received its name from that man, who eternized his own, by being the first who discovered and passed it. This was that famous Portuguese captain, Hernando de Magellanes, whose intrepid soul going almost beyond the true limits of all ordinary valour, seems to have bordered upon temerity and rashness, by engaging himself to discover a passage altogether unknown, and so narrow, that it was very dangerous for ships, being besides in the fifty-fourth degree, which makes it very cold. This bold captain began to enter the straight by the North-Sea the twenty-seventh of November, in the year 1520, and in twenty days, which was a happy passage, he entered the South-Sea; from thence he sailed to the Philippine islands, where he was killed in one of those islands called Matan, to which he went from another called Pezebu, to fight against the king of the first, because he refused to subject himself to one of those kings who had turned Christian; engaging him with more courage than conduct, and so he perished by the great number of his adversaries. His

death was very much lamented, and he much missed in the discoveries of that new world; for, without doubt, if he had lived longer, he would have made great discoveries in the Terra Firma and islands.

To give a more certain account of this straight of Magellan, I will make use of the memoirs of those who have passed it, and left relations of it, who, as eye-witnesses, were less subject to mistake. And first I will give those sworn relations given in Castilla by those who set sail from the Corunna, by the Emperor Charles the Fifth's order, in six ships under the command of Fray Garcia Jofre de Loayza, a knight of Malta, and born at Civedad Real.

They say in their report, that the said straight is a hundred leagues in length, from the cape of Eleven Thousand Virgins, which is at the entrance of the North-Sea to the cape of Desire, which is at the entrance of the South-Sea; and they say more, that they found in the straight three great bays, of about seven leagues wide from land to land, but the entrances of them are not much more than half a league over; the first is about a league deep; the second about two leagues; the third, they say, is encompassed with mountains of such a height, that they seem to be in competition with the stars, and the sun does not enter within them in the whole year; which was the cause of their enduring there an extreme cold; for it snows almost continually, and the snow never melting by the sun-beams, it looked with a kind of bluish colour. They say, moreover, that the nights were twenty hours long; they met with good water, and trees of several sorts, among which many cinnamon-trees; and that the leaves and boughs of the trees, though they appeared green, yet burnt in the fire as if they were dry; that they found many good fishing-places, and saw many whales, (some mermaids) many of the tunny-fish, sharks, cods, great store of pilchards and anchovies, very great oysters, and other shell-fish. That there were also very good harbours, with fifteen fathom water; and in the straights itself above five hundred fathom, and no where any sands or shoals. They observed several pleasant rivers and streams, and saw that the tides of both seas came each of them above fifty leagues up the straight, and meet about the middle of it with a prodigious noise and formidable shock. Though a Portuguese captain, who had passed this straight, told me, that these tides were only some high floods, which last a month, or thereabouts, as the winds blow; which makes the sea sometimes rise to a great height, and at other times fall as much, leaving the shore dry for a great way; and the ebbing is sometimes so fast, that ships are left dry, as this captain's ship was, so that he was forced to dig his way out to get into deeper water. They found several other entrances in this straight; but for want of provision they could not stay to search them. They lost one ship off the Virgins Cape; and they had scarce entered the straights when a storm blew them back to the river of St. Ildefonso, and to the port of Sancta Croce, where they found serpents of various colours, and stones that were good for stanching of blood; all this may be seen in Antonio de Herrera, in the second tome, dec. 3, and in the ninth book, fol. 335, and it does not disagree with the other relation of Magellan's voyage, though this makes the straightest part yet less, allowing it not above a musquet-shot over, and from one entrance to another it reckons a hundred leagues, the land on both sides being very rich and beautiful.

This is, in short, the relation given in to the king. There are some other authors who neither make the straight so long, nor do they make the narrowest part so straight; for some allow but fourscore and ten leagues, or less, to its length; but yet it is probable, that the first give the most credible account, because they examined it with such care and punctuality, in order to inform His Majesty. All agree in one thing, which

which is, in the good qualities of the sea, land, and islands of the straight, as well as of the shore on both sides, and of the good parts that are in it, and of some particularly so secure, that the ships rid in them without being fastened, being as safe as if they had been in a box.

Among the rest the Hollanders celebrate much the twenty-fifth port, called the Famous; and it is so much so, that George Spilberg, their general, gave it that name, for the excellent reception they found there: they saw the whole earth about-covered with various fruits of various colours, and of excellent taste. To delight them the more, there was a fine brook of excellent water that fell from a high rock, and watered all the valley entering into the port; and besides these five and twenty ports or harbours, there were many others in the remaining part of the straight, which might be a third of it, all which were very remarkable.

There is a harbour called De la Pimienta, or the Pepper Harbour, for the sake of some trees they found in it, whose barks had a most aromatick smell, and a taste of pepper, something more burning and quick than that of the East-Indies. When the Nodales passed this way, they gathered a great deal of this bark; and authors say, that when they brought it to Seville, it was so valued there, that it was sold for sixteen ryals, or two crowns a pound.

The same authors report, that they found cinnamon-trees, which bore good cinnamon; and in the second narrow passage some others, that bear a sort of black fruit, of most excellent taste and favour. In other places they saw most beautiful woods and groves, pleasant plains, agreeable valleys, intervals of great beauty, with high mountains; some covered with snow, from whence there descended lovely streams; others all cloathed with greens of various sorts; and in them they descried many animals going to and fro, such as deer, ostriches, and others, as also great variety of most beautiful birds of all colours; and among the rest they killed one so large, that measuring one of its wings, they found it above a yard long; and they were so tame that they flew to the ships, and suffered themselves to be handled: they found also another sort of large birds, which they called sea-geese, every one of which, after they had been plumed and pulled, weighed eight pounds of Castile; and they were so numerous, that the ground was covered with them, so that they killed what quantities they pleased. They saw another sort of bird, much of the shape of a pigeon, all white, only with red bills, and red feet; all which were a grand entertainment to them as they sailed along. They commend also the harbour, which they call Most Beautiful, where the city of St. Philip was founded; there they saw the traces of several animals, which used to come to drink in those chrystal fountains. After the third straight place, there is to be seen a most excellent harbour, called the Shell-Harbour, by reason of the vast quantities of oysters and other shell-fish that they found there, which sufficed to feed the whole fleet several days, carrying away with them a good provision likewise for their voyage, all owning that they were better than those of Europe.

There are found in the great canal of the straight several islands, which are as estimable as the Terra Firma; they are generally in the widest part, where the sea is seven or eight leagues over; the chief are those of St. Lawrence and St. Stephen, otherwise called the island Barnevelt. Before they came to these, they found other islands, which they called the Pinguin Islands, for the great quantity of that sort of birds that are bred there. There is another, called the Holy King's Island, which is in a river, which enters into the straights, and they saw in it many seals. Others of these islands are named Sevaldo, from the name of him that discovered them, near which there were

were store of the penguin birds, and abundance of whales. After having passed the second straight, there are still more islands, the first is called of the Angels, and is full of the birds we have mentioned. The second is named the island of the Patagoons, or giants, because they saw there some of them. Near the shell-port there are other eight islands; and a little before the entrance into the South-Sea, there are several other islands, which must be very little, for the straights are there very narrow. Some may desire to know, whether, besides this entrance of the straight of Magellan, there are any other, by which ships may sail from the North-Sea to the South. Touching which, the relation of George Spilberg says, that there is one by the cape, which they called Prouvaert. Some English likewise, who have sailed that way, are of the same opinion; for which they cite father Acosta, of our society, in his *Oriental History*, translated by John Hugh Lincolt, chap. 10. in the end: as may be seen in the already cited John and Theodore de Brye, who add, that many other authors do agree in this opinion; and that those of Spilberg's fleet, before they came to the straight, saw this opening on the north side; but they did not dare to go into it, because they had express orders to pass the straight of Magellan; and besides, that which added to this resolution, was the observation they made of the great force with which the waves met each other at this opening, inasmuch that the sea seemed to boil.

This is all that I have met with in authors about this opinion, which even John and Theodore de Brye look upon as false; because neither the Spaniards nor Dutch ever saw this second canal; but rather that the whole land of Fuego is one great continued island, which they prove by the relation of the navigation made by the Nodales, who were sent to search for the straight of St. Vincent, and who went round the Tierra del Fuego, without finding any such opening, or any other than that of Magellan and St. Vincent; and yet I am of another opinion, and hold the first for certain; and this does not contradict the opinion of Spilberg, who does not say, that the opening he saw was on the south, but on the north side, towards the land of Chile; and so, though the land of Fuego be an island, it does not follow that there may not be an entrance on the north side. But let us leave that to time to make out, and say something of the straight of St. Vincent, which is the second passage from the North to the South-Sea.

#### CHAP. IV. — *The same Matter is continued, and the Usefulness of the Commerce between Chile and the Philippine Islands is made out.*

IN the year 1619, the king sent, in the month of October, the two caravals which I mentioned above, to search the straight of St. Vincent, because about that time it was reported in Spain, that James Le Maire had discovered it. These two ships sailed to the bay of St. Gregory, which is near the east entrance of the straight of Magellan; from whence they sailed along all that coast, where they saw and conversed with a sort of giants, who were at least the head higher than any of the Europeans; and they exchanged for scissars, and other baubles, gold, which it seems, is the product of that country: after which they sailed south-west round the Tierra del Fuego, till they came to the mouth of this new straight, which they called the straight of St. Vincent; and before they entered it, they sailed along the shore of this new discovered land, keeping it always on the right hand, their course east-north-east, as it tends.

They sailed about thirty leagues; and not having discovered all that way, not as far as they could see, any opening or inlet, they returned to the opening of the straight

of St. Vincent ; and entering into it, went through it in less than one day, it not being above seven leagues in length ; and being entered afterwards into the South-Sea, they followed the same land to the east, and south-west thirty leagues more ; and seeing it was one continued coast, closed up with mountains of great height, they durst not go any further, beginning to want provisions ; and so thinking that this land might reach as far as the Cape of Good Hope, they left it, and sailed to the west entrance of the strait of Magellan ; which they entered, and went through to the North-Sea, returning that way to Spain, to give an account of what they had discovered, having made a very fortunate voyage, and not lost one man, nor had any sickness, all that climate being very like that of Europe, and particularly to the cold part of it. This made the king give order for the setting out of eight sail more, to carry this way to the Philippine islands all the relief necessary, of soldiers, artillery, and tackling for ships, resolving henceforward that they should always go this way, as being shorter, easier, and of less charge and danger. This was the opinion of Michael de Cardoel, and the other pilots chosen for this expedition, who obliged themselves to sail to the Philippines (bating extraordinary accidents) in eight or nine months ; for, having once passed the straits, if they had the wind and currents favourable, they hoped to get to the Philippines in two months ; because from Chile to those islands, there is no reason, as in other navigations, to wait for certain seasons and times of the year ; for all that voyage being to be made within the tropicks, there is no danger of winter ; but one may sail it at any time of the year.

The Dutch authors already cited, treating of this subject, add these words :—" In truth this is a great conveniency to mankind, to be able to go from Europe to these islands in so short a time, with all the health and safety of the sailors ; it being otherwise in going by the Cape of Good Hope, where the diversity of winds is to be observed, some of them being so contrary, as to hinder absolutely the voyage ; so that it lasts sometimes fifteen or sixteen months. Besides, this course is so subject to diseases, that often they bury half their men in the sea, as happened to Girrard Reinst, who was sixteen months getting to Bantam, which is not above half way to the Philippines, and yet lost a quarter of his men : Adrian Wreuter was nineteen months getting to Bantam, and lost out of the ship, called the Flessingue, one hundred and sixty-three out of two hundred : the same happened to the other three ships of that squadron." Thus far these Dutch authors ; who add, that the ship Concordia, going the other way, arrived at the Moluccas without losing a man. And if they say true, and make out that it is better to sail this way to their Batavia, how much better is it for the Spaniards, who drive a trade with Peru and Chile, the distance being much less, and having for friends all the ports of Chile, if they would not go so high as Peru, which the Dutch have not ? Neither would it be a small advantage to exchange in those ports the merchandizes of Europe with their product, which is so wanting in the Philippine islands, and all those parts of the east. Every one may find their account in this trade ; the Spaniards, without running the danger of sickness in those unhealthy climates of Carthagena, Panama, and Puerto Bello, might find as much vent for the European commodities ; Chile and Peru would have all goods from Spain much cheaper than they have them now by the Terra Firma ; the charges then would be three times less ; and, at the same time, they would help off the products of those parts ; as from Peru they might load corn, wine, and oil ; and if they did not care to go so far, they might have the same things from Chile, and cheaper, besides copper, hides, almonds, and other commodities proper to Europe : so that it is clear this would be a very advantageous intercourse for the Philippines, who want all these commodities so much.

Neither would the trade of New Spain receive any damage at all from this ; for those countries could not have them from Peru and Chile so easily as from Europe ; and so Spain would send less, only so much as is carried to the Philippines from New Spain, which cannot be much ; for the charge of carrying those European commodities from Vera Cruz, to be embarked again for the Philippines, is very considerable, it being at least one hundred and sixty leagues by land from the Vera Cruz to Acapulco, which is the port where they are to be embarked ; after which, they have a navigation of three months ; and then, there being not always conveniences of shipping in Acapulco, those commodities are kept so long that they are spoiled ; and it is seen by experience how little of this trade turns to account : but it would be otherwise, if these commodities were carried from Chile, since in two or three months, always in a temperate climate, they might sail with a constant south wind, which blows all the summer infallibly, and so bring the product of Chile in a good condition to the Philippines. This commerce, though it would accommodate all parties, yet it must be confessed, it would be most beneficial to Chile, which would thereby have more vent for its product, and acquire more people to cultivate its natural fertility.

There have been two obstacles to this project, which have hindered its taking : the first is, the difficulty of passing the straight of Magellan, because it being so much elevated towards the pole, it cannot be passed but in certain months of the year, which, if those who attempt it do not hit, they are in danger of perishing, as in effect it has happened to some squadrons of ships, as I shall relate in the next chapter ; though others have passed it very luckily in its proper season, the straight itself having, as we have seen, many good harbours and shelters for ships.

The second obstacle is the same that keeps the port of Buenos Ayres from being frequented, (for else all the treasure of Peru might be sent that way ; ) and it is, that the course of trade is settled the other way, notwithstanding the great charge the crown is at to have two fleets, the one in the South, and the other in the North-Sea, only to secure this passage ; and that with the loss of so many Spaniards' lives, that in the hospital of Panama only, there was buried, as they told me when I went that way in the year 1630, above fourteen thousand persons ; and what must we guess then in the ports of Carthagen and Puerto Bello, which have been the sepulchre of so many Europeans ?

Notwithstanding all these mischiefs, this way is continued to maintain those cities already founded in those parts ; though it is most certain, that the same end, of carrying the silver to Spain, might be attained by one only fleet, with less danger of the sea. By that course the galleons would sail always in deep water, and not run the hazards they do between Carthagen and the Havanna, between which places they are fain to found all the way, and keep the lead going, to avoid the many shoals that are in those seas, and in the canal of Bahama afterwards : besides that, the dangers of sickness would be avoided ; for the Spaniards find by experience, that at Buenos Ayres they are healthy, that being in the temperate climate corresponding to that of Europe.

And for the same reason the navigation between Chile and the Philippines is not put in use ; because the course of things being once settled one way, it is very hard to change them ; though to a better. I shall not pursue this matter any further, because it seems to touch the state and government, which is not my design : perhaps time will bring all things to pass ; and that those of Chile themselves will venture to find out this vent for their product. All consists in trying ; for the advantages on both sides would be so manifest, that the sweet of them would soon make the way easy, and that trade would wonderfully enrich Chile and Peru, since they might bring back those

kingdoms all the commodities of China and Japan ; and that without carrying any gold or silver, which might be preserved all for Europe. Thus the greatest part of this new world being enriched by its own product, the king's revenues will be the greater, as well as the returns in gold and silver the greater ; and all things thus well accommodated, the service of God, and the divine cult and worship would be better carried on.

CHAP. V. — *Of the Fleets ; some of which have been lost, and some have happily passed the Strait of Magellan.*

AMONG the fleets which have been lost in the strait of Magellan, the first was that of four ships set out by the bishop of Placentia for the Molucca islands ; which having got to the strait with good weather, and being entered into it about twenty leagues, there rose from the west a storm, which blowing directly a-head, forced three of the ships ashore, they not having room to turn or run before it ; but all the men were saved. The fourth had better fortune ; for going before the storm, she got out of the strait ; and when the foul weather was over, came into the strait again, where the other ships were lost, and found the men, who had saved themselves on shore, who presently made signs and cries to be taken on board ; but they with hearts full of grief answered them. " What would you have ? We cannot relieve you, for the provisions we have on board are not sufficient for us, and so we may fear to perish all of us together." They could not say to them the other words of the Gospel, " Go rather to those who sell," because they were in a desert country, where they had no remedy, but to send sighs to heaven, accompanied with inconsolable tears and cries, capable of moving the stones themselves. Thus they left them, pursuing their voyage, much afflicted to be forced to forsake them, and not be able to do any thing for them ; but these are accidents and hard cases belonging to the sea-faring men.

It is not known to this day what has become of these men ; only there is a tradition, that a great way within land, on the continent of Chile, near the strait, there is a nation called Cessares, who were endeavoured to be discovered by Don Hieronimo Luis de Cabrera, governor of Tucuman, about eight and twenty years ago, with a good army raised at his own charge ; but his diligence was in vain, as we have marked already, and told the cause of his miscarrying. It is thought, and it is very probable, these Cessares may be descended from those Spaniards who were saved in this shipwreck ; because it was possible, that seeing themselves without any other recourse, they might go on into the Terra Firma, where, contracting alliance with some Indian nation, they may have multiplied, and the fame of them may have reached the neighbouring nations, and so on to others. This is certain, that this tradition is much kept up, that there is in those parts an European nation called Cessares. Some say, that there has been heard the sound of bells, and they have founded cities where they live ; but, in fine, there is no certainty of all this. A gentleman born in Chiloe, and who has been a colonel in those parts, gave me in writing a relation of several traditions and informations of great numbers of people that inhabit the land within, and who have much gold. There has been made several attempts to discover them, though all have miscarried for want of provisions, or by other accidents, which in time may be remedied when it pleases God. And at this very time I have received letters, which acquaint me, that father Hieronimo de Montemayor, apostolical missionary of that archipelago of Chiloe, had entered into the Terra Firma in company of Captain Navarro, a man very famous

famous in those parts ; and that they discovered a nation, which it is thought are these Ceffares, because they are a nation of white complexion, and fresh cherry cheeks, and who, in their shape and disposition of body, seem to be men of mettle ; and that they had brought some of them along with them, to endeavour to inform themselves of that which they so much desire. This is all the father wrote at that time, because the ship could not stay, and there is but one ship every year bound for those parts ; so he was forced to refer himself to the next conveniency, to inform me more particularly of the original and descent of this nation ; so that this is all that at present we can say of this nation of the Ceffares, which it is possible may come from these shipwrecked men ; or else they may descend from some Dutch, who may have been shipwrecked in the same place, or thereabouts ; and their complexion seems to fortify this conjecture ; besides, that they speak a language which no body then present could understand ; or there may be both Spaniards and Flemings. It is thought we shall not be long without knowing the truth, and so I continue my narration. The second fleet which miscarried in the strait, was that which was set out about two and twenty years ago, under general Ayala, a gentleman of high birth and valour ; who going from Spain to Chile, dealt with His Majesty for a relief of men, which he was to carry through the strait of Magellan, without landing any where else ; but just as they were entering it, they were all cast away, so as to this day there has not been any account of them, except of the vice-admiral's ship, under the command of Francisco de Mandujava ; for, having lost sight of the admiral in the storm, she was carried before the wind to the port of Buenos Ayres, where he landed the men, and marched them over land to Chile. I heard some of the men talk of this matter ; and they used to blame the general very much, for having gone about to enter the strait when the time of the year was so far advanced, particularly having been advised in Brasil, where he touched, to winter there, which he refused to do, for fear his people should desert him, and so he and they all perished.

These accidents seem to have made this passage less practicable ; but yet we know that many have passed this strait with little danger, and some with great felicity. Eight fleets are mentioned by John and Theodore de Bry, as well Spaniards as foreigners, who have passed this strait ; and though some have had bad weather, yet there is no doubt but time and good observations may make it more feasible ; particularly there being so many good harbours and bays in this strait, where ships may shelter themselves, and let the storms blow over.

#### CHAP. VI. — *Of the Province of Cuyo.*

AFTER having treated of the two first parts of the kingdom of Chile, we must say something now of the third, which contains those large provinces of Cuyo, which are on the other side of the Cordillera, towards the east. We have already described their situation and extent, let us treat now of the nature of them. And to begin with their ill qualities ; it is a wonderful thing to consider that there being nothing between them and Chile, but the high mountains of the Cordillera, yet they are so different in their qualities. We have already mentioned some ; but we may say, that as to their temperature, they are in every thing entirely opposite ; for first, the heats are excessive and intolerable in summer ; and for that, as well as for the vast quantity of bugs or punaises, which are there, some very small, and others as big as bees, one can hardly sleep a nights in the houses, and therefore the people all sleep in their gardens and court-yards. There

There are almost perpetual thunders and lightnings, and many poisonous reptiles and insects, though not so many as in Tucuman and Paraguay. There are likewise a species of mosquitos, or gnats, no bigger than the points of needles, and as sharp in their sting, though themselves are almost imperceptible; they get into the hair of one's beard, and one cannot be rid of them any other way, than by killing them.

These are the evil qualities of the land of Cuyo; let us now mention the good ones. The land is so fertile, that in many things it exceeds even the richest soil of Chile; the crops are better, the fruits larger, and of better taste, by reason of the great heat, which ripens them more: there is good store of corn, wine, flesh, all sorts of fruits, roots, and herbs of Europe; as also great quantities of olive-yards and almond-grounds; so that the only essential difference between it and Chile, is the many venomous animals, and the thunders and rains in summer; though to make some amends, if Chile exceeds in summer, Cuyo has the advantage in winter; for though the cold is sharp, yet it is not with such clouds, nor such snow and rains, as in Chile; but rather the weather is serene, and the sun beautiful and clear, without any dark weather, which makes it very temperate.

There is no sea-fish in this province, it being very far from any sea; but it has ponds, which are called the ponds of Guanacache, where they catch great quantities of trouts, as they call them, which are very big, like the Savalos of Seville, but much better without comparison; for they have no small bones, and are of a higher relish, and a very healthy food.

Besides the fruits of Europe, this country has several very good of its own. The first is called Chanales, which are like filberts or small nuts; only the difference is, that that which is to be eaten is not within, but on the outside of the shell: the other is the Algaroba, of which they make bread so sweet, that it nauseates those who are not used to it. All Tucuman, as far as Buenos Ayres and Paraguay, are provided from hence with figs, pomegranates, dried peaches, and dried grapes, apples, oil, and excellent wine, of which they have abundance, which they carry over those vast plains called the Pampas, (where for many leagues together there is not a tree, nor a stone to be found,) in large carts, such as they use here in Rome; and they are a caravan of them together, to defend themselves from; certain Indians, who are enemies, and often attack them by the way.

Some years ago, they began to discover here rich mines of silver, the fame of which drew people from Potosi when I left Chile, because they were reputed to be richer, and of more profit than those of Potosi, all provisions being more abounding and cheaper too. These mines were also said to be in a plain country, where carts might come easily. They write me word likewise, that there have since been discovered gold mines of a prodigious richness. It is true, indeed, that in this matter of mines, there is a great difference between the assaying them in little parcels, or in great ones; for often the ore that promises much, yields but little, when the assay comes to be made in great. This is a common observation in mines; and if these of Cuyo do not prove extraordinary rich, there will hardly come any people from abroad to them, particularly from Chile, where they have already so many and good ones, of such a known profit, and yet they do not work them, the people being more profitably employed in husbandry, which turns to greater account.

I will give here an extract of a letter which I received in Rome this year from father Juan del Poço of our company, a person of great piety, and worthy of credit, who is at present in the college of Mendoza, the chief of all those of the province of Cuyo, and it is thus:—"The greatest news here, is about the mines which are begun to be discovered, which if it holds as they relate, it will be the greatest thing in the world."

they are of gold, which is seen among the silver ore : there are come very understanding miners from Potosi, who cannot give over commending them. There come people from St. Jago to work them, and Captain Lorenzo Soares is named for Alcalde Mayor of these mines." ] There are others who write the same thing ; and there is no doubt to be made, but that if they can have people, that country will be one of the richest of all the Indies ; for its great fertility wants nothing but people to cultivate and consume its product. This will make the three cities of that province, which are that of Mendoza, that of St. Juan, and that of St. Luis of Loiola, increase mightily, which since their first foundation have been at a stand, by reason of the neighbourhood of Chile, which has kept them down ; many of the first inhabitants of Cuyo having left it to go to Chile, as being more temperate, and more abounding with the conveniences of life ; for the same reason that we see in other parts most people flock to the capitals of a kingdom, as is evident in Naples and other great cities. But if the Spanish inhabitants increase as they have done hitherto, there will be enough for all these parts ; and already some of St. Jago have settled, and married at St. Juan and Mendoza ; neither can it be otherwise, for the people of Chile are beginning to be so straitened, that they cannot have all the conveniences of being at large, and so are forced to seek them abroad.

And it is most certain, that the conveniencies of this province are very great ; and their not appearing so, is owing only to their neighbourhood to Chile, in comparison of which these countries appear a place of banishment, and is looked upon as the most rigorous that can be given any one in Chile ; because to say truth, the difference is very great, considering the proprieties of each place ; but if we consider Cuyo, without comparing it, it is not only a good place, but surpasses many others, where nevertheless the inhabitants think themselves very happy, though wanting the abundance of Cuyo, where the flesh is very substantial and savoury, and great abundance of game, as also of pork, turkeys, ducks, hens, and other tame fowl.

The wines are very generous, and of so much strength, that though they be carried three or four hundred leagues over those plains, and the intolerable heat of the Pampas, and that by oxen, yet they come good to Buenos Ayres and other places, and are preserved with the same facility, as long as one pleases, without spoiling ; and they are in such quantity, that all the provinces round are supplied with them, nay, as far as Paraguay, which is three or four hundred leagues more. The bread is excellent, so is the oil, and all sorts of legumes and gardening ; the fish better than the sea-fish ; the flax and hemp as good as that of Chile ; the materials for tanning very good ; and, in short, it has all necessaries for life, with as much advantage as any other country.

This being thus, and even more than I relate, what is there wanting to this land, or what are its blots ? punaises, thunder, lightning, hail. And what other country has not some of these ? Shall we say, because God has exempted Chile by a singular providence from these things, that therefore Cuyo is an ill country ? No, for then we must condemn most countries where these afflicting circumstances are found. And though it must be owned, that in the summer the heats are great, yet they do not exceed those of Tucuman, Buenos Ayres, and Paraguay ; and they are inferior to those of Brasil, and those of Carajas, Carthagera, Puerto Bello, and Panama, as I myself have experienced in some of those places. And these parts of Cuyo have some amends made them from the neighbourhood of the snow ; for the city of Mendoza is not above a league from the Cordillera, which is full of it ; and likewise the good qualities of the air do something moderate the heat ; for it is so healthy, that it never hurts any body by being in it,

it, which makes them sleep in their gardens abroad, without any apprehension, except it be of some sudden shower which does often happen in summer; for on a sudden, though the heavens be clear and bright, it grows cloudy, and falls a raining with great fury; but this may be easily remedied; and likewise the thunders and thunderbolts might be avoided, which are the things which fright those of Chile most, they being so little used to them; and therefore at the very name of Cuyo, they think the heavens are falling upon their heads, or that the punaises, and other nauseous vermin are never to leave them; so that no greater mortification can be proposed to an inhabitant of Chile, than to go to live in Cuyo. And besides all this, the vast snows which fall on the mountains, shut up the passes, and hinder all communication or intercourse; so that in five or six months one cannot receive a letter, though those two provinces are not above thirty or forty leagues asunder, that is, the breadth of that chain of mountains called the Cordillera. This therefore is that which discredits Cuyo; and if it had been further off from Chile, it would have had a better name; but it is with that, as with two loaves, which though both good, yet if one be whiter and better, no body will touch the other, the best being always most pleasing.

CHAP. VII. — *Of the Confines of the Province of Cuyo, and particularly of its Easterly Bounds, the Pampas, and of the River of Plata.*

THE confines of this province of Cuyo to the west, are Chile; and to the east, the Pampas, or vast plains of the Rio de la Plata, and part of Tucuman; which reaching as far as those of Rioca, and the mountains of St. Michael, with all the rest as far as Salta and Jujuy, make the north side of it; and to the south, it has the straights of Magellan. All this continent is called the Escombradas, or plains without hindrance; for there is not so much as any stop to the eye; but it is like a sea, and the sun seems to rise and set out of the earth; and at its rising, it is sometime that it gives but little light; as also it loses some of its beams before it be quite out of sight when it sets. The way of travelling in those plains is with very high carts, which they cover over neatly with hoops, over which are cow-hides, with doors to go in and out; and these are drawn by oxen: there are also windows to give a free passage to the air, and on the bottom one makes one's bed with so much conveniency, that often travellers sleep out the whole journey, and feel not any of the inconveniences which attend it. Generally they set out about two hours before sun-set, and travel all night, till it be an hour or two after sun-rising; so that a traveller just wakes when he comes to the baiting-place. This must be owned to be a great conveniency; because one may also walk on foot sometimes, in the cool, before one lies down, and so one comes merrily and easily to one's journey's end.

There is also another entertainment which helps to pass the time pleasantly, and that is hunting: and for this end some carry horses empty, and dogs on purpose; and there is game enough both of hare and venison: for there are herds of Guanacos, of two or three hundred. The dog follows them; and the young-ones, not able to follow, are left behind, which the hunter knocks on the head with a club he carries, without lighting from his horse, and returns to the carts loaden with venison, which serve for provision as well as entertainment. At other times they follow the partridges, francolins, or the bird called Quiriquincho. But to all this there are abatements and mixtures of trouble: the first is, the mighty heat in summer; for which reason, lest the oxen should be stifled with it, they travel in the night; and when they come to  
halt.

halt, or bait in the day time, it is in places where there is not so much as a tree, under whose shade one may rest: nor is there any other shade than that of the cart, and some coverlet upon it; for to go into it, is like going into an oven. But this is not all the way, there being some pleasant running streams and rivers bordered with green willow-trees, which very much mitigates the fury of the heat. The greatest inconvenience that I perceived in that journey, was the want of water; which is so great, that we were forced to provide ourselves, when we arrived at any of these rivers, for many days journey; for there is no other, except sometimes some plashe remaining of rain-water; and that is all green, and can serve only for the oxen: and yet this is rare too; for these are often dried up to mud, and then one is forced to double the day's journey, and march as far again; so that the cattle is almost dead with thirst. I have seen sometimes, on these occasions, the oxen take a run as if they were mad or possessed; for they know by instinct, a league or two before they come at it, the places where it is, as if they smelled it; so there is no stopping those that are loose; and even those who are at the yoke, make what haste they can; and when they get to the water, they raise the mud so by their haste, that they drink as much mud as water.

When this happens, while there is any of the water left that was taken at the river, and carried in carts, the misfortune is the less; but when that water is already spent, the people suffer extremely: for though most commonly some one man is sent before to take up some water of the clearest, before the oxen trouble it, yet they make such haste, that that prevention most commonly miscarries; and then we are fain to stop our noses, and shut our eyes to drink, and divert even our imagination, if we can. And to all this there is no remedy, but from heaven, as it happened to me once, that it pleased God to send us a shower in our greatest extremity, which filled several wells, and there was enough for us and our cattle, as also to carry away; for which we thanked the Divine Majesty, acknowledging his great mercy to us in so pressing circumstances.

This suffering would not be so great, if there were any towns and villages in the way; for there are little lakes, by which they might settle, which, though some years they yield no water, yet it is to be come at by a little digging, and that not very deep; and if there were people in those deserts, wells might be made, or the rain-water gathered in cisterns, as it is practised in several other places. But these plains are so vast, that they can hardly be peopled, being extended for several hundred leagues; and besides, there being no trade settled of any importance in those parts, there cannot be inns nor places of shelter settled; and so at present, whoever travels that way, must carry every thing; for when once one is set out, there is no addition to be made; and therefore all is to be provided, more or less, according to one's ability; and that must be at least a fortnight's allowance, and sometimes twenty or thirty days, till one comes to some inhabited place. This is the manner of travelling in the plains of Cuyo, and Tucuman, and the Rio Plata, where in many leagues one does not see a hill, nor a stone, nor a tree, but continual plains; and if, to dress your victuals, you have not the foresight to carry some wood, all the remedy is to gather the cow-dung, which serves the turn very ill. In some places of this province of Cuyo, there are woods near the rivers, from whence may be had materials for building; and hard-by the Cordillera there is a sort of tree that breeds incense. I brought some of it to Rome, and the druggists told me, that it was finer than the ordinary, consumed in churches. There grows there also the herb called Xarilla, which is very hot, and a good medicine, as we have said already. There are many others, of which I cannot give so particular an

account, as not having made any stay in those parts; neither am I in a place where I can advantage myself of those relations, that others might give me; and which may serve for larger histories than mine, I pretending only to brevity. Therefore let this suffice for an account of the situation, soil, heavens, proprieties, trees, plants, fruits, metals, flocks, fountains, rivers, sea-fishes, and birds, in all the three parts or divisions of the kingdom of Chile. Let us now say a word of its inhabitants, the old Indians, who have possessed it all formerly.

### BOOK III.

#### OF THE INHABITANTS OF THE KINGDOM OF CHILE.

##### CHAP. I. — *Of the first that peopled America, and their Antiquity.*

THE knowledge of the first inhabitants of the kingdom of Chile, depends necessarily upon that of the first inhabitants of America, which is not easy to be made out. If we should take the opinion of the Indian Guancas, near the valley of Xavia, they would certainly affirm, that which is a constant tradition among the natives of Peru, and before they had any knowledge of our faith, and is, that many years before there were Ingas, who were the kings of those parts, the country being very populous, there was a great deluge: (thus far it is well.) But then they add, that in the hollow rocks of the highest mountains, there remained some alive, who returned and peopled the earth afresh; and the same tradition is received by the Indians of Quito in Collao. If this were so, the Indians of Chile might lay claim to the new peopling of America; for if any, their mountains were most capable of resisting the deluge, they being the highest that are yet discovered. There are other Indian mountaineers, who are less mistaken; for they affirm, that none could be saved in the mountains, because they were all covered with water; but that six were saved in a float they made. If they had said eight, they would have hit upon the number which the apostle St. Peter says escaped with Noah in the ark which he built.

Antonio de Herrera, in the third tome of the General History of the Indians, excuses these errors of the Indians, saying, it was probable there was some particular deluge in those parts, to which they might allude, because all the nations of that world are agreed in this tradition. The true and natural excuse is, that these poor wretches have not had the good fortune to see the chapter of Exodus, where they would have been undeceived; for there it is said, that "out of the ark of Noah there was not left any living thing upon the earth, and that the water was fifteen cubits over the tops of the highest mountains." The other Indians, who talk of the six men saved on the float, may have had some tradition from their forefathers, who were nearer the time of Noah, about the ark; and as they are a people who have no books, because they cannot read, whatsoever they might learn from their ancestors, and retain in their memories, might by degrees be lost, or diminished; and so the descendants came to have the tale of the float and the six persons, not examining how

it possibly could be, that upon so slight a contrivance, which can hardly last three or four days in the water, those people should maintain themselves for so long as the deluge lasted. As for the manner and time, how and when the descendants of Noah passed to people this new world, or how their generations have extended so far, it is a most difficult thing to make out; for the Indians being without written records, as other nations have, there is no diving by their memories into their antiquities, which even when they are committed to writing, use to produce variety of opinions about the origin and beginning of things. Besides, there was in Europe, even among the most learned, so great an ignorance of all that regarded America, that it was judged scarce inhabitable, if it was at all; and so they could give us no light of a thing they had no notion of, or which they thought impossible; but after the discovery of this new world, people began to reason, and every one made his guesses or reasonings as well as he could. Some have said, with reference to what is hinted by Plato, in his *Timæus*, (as is related by our father Acosta, in his first book of the New World, in the twenty-second chapter,) that people passed from Europe and Africa, to certain islands; and so from one to another, till they came to the Terra Firma of America.

The same author advances something more probable, in his nineteenth chapter; where he says, that supposing we all came from the first man Adam, and that the propagation of the species of mankind, after the deluge, was made by those only who were saved out of the ark of Noah, it is not improbable, that the first inhabitants of America came to those parts, not with design, or by their own industry, because of the little use of navigation that was in those days, and particularly through so great a sea; but that they were cast by some storm on those coasts, as it happened since in its first discovery, as we shall see hereafter in its proper place. He brings, to prove this, the example of several ships, which, contrary to their course, have been driven to very remote shores. This is every day's experience, and will not surprise those who know any thing of the strength of the winds and currents in those seas; and that which the same father Acosta alledges of himself, that he had such a passage, that in fourteen days he came within sight of the first islands of the gulph of Mexico, going from Spain.

This, though probable, has yet a strong objection against it, which is about the wild beasts, such as tigers, lions, wolves, and others of that nature, which could not be carried in ships, because they were of no use to mankind, but rather mischievous: and though some may answer with St. Austin, in his sixteenth book *De Civitate Dei*, chap. 7. when he solves the difficulty how these animals came into islands, and says, that they might either swim thither, or be carried by hunters, or that they might be created a-new by God Almighty, as they were in the beginning of the world; which is the best solution, if it were as probable as it is easy to say. But first, there is against it the opinions of philosophers, who will not allow any great animals to be propagated any other way than by generation. And besides, if God, as without doubt he might, had created them a-new, what necessity was there for him to command Noah to take so many pairs of all living creatures, all male and female? which care seems superfluous, if God designed to make a second creation of all those species after the deluge. It is more probable, these creatures might arrive at the islands swimming, and the birds flying, particularly to the nearest islands; but this does not prove, that they could arrive at those remote parts of America, there being such a vast ocean, that it is not possible that either beasts or birds should have so much strength as to swim or fly over it; for this reason he concludes in the end of the one and twentieth chapter, that the men, as well as animals, passed either by land or water to America, near

some part where it joins to the other parts of the world, either by the Terra de Bacalaos, or the strait of Magellan, that is not separated but by ordinary little separations of water and sea, which might be easily passed in small vessels, such as were in use in those antient times.

This is the author's opinion; which, as to the Terra de Bacalaos, carries with it only the probability of an ingenious conjecture, because as yet that part of the world has not been discovered; but if in time it proves like the conjecture about the straights of Magellan, it is all without any grounds; for, as we have already related, it is now made plain, that America on that side is entirely divided from the other parts of the world by a vast sea. It is true, that to the east it is not known yet how far that land runs, which is over-against the Terra del Fuego, and is on the east side of the strait of St. Vincent, otherwise called the strait of Le Maire; for some think that it may run as far as the Cape of Good-Hope, and so be so near that part of Africa, that men might pass in small vessels from the one to the other. It is likewise uncertain, that the continent of America ever was nearer than it now is to any other continent, or that the sea has since broke away part of either, to make the separation wider, as we have observed it did in the island of Sancta Maria, which is supposed to have formerly been all of one continued piece with the firm land of Arauco; but these are all conjectures, and he alone knows the truth who created these men, and other animals of America, and by whose providence they passed to those parts, for the great ends of his hidden secrets; to whom, with all veneration for his counsels, we must submit the enquiry, why he has been pleased that that part of the world should remain undiscovered for so many ages, without any communication with those parts where his divine light has appeared sooner. These are considerations for the good to make use of with thanks, for having been admitted to it; and confusion of the wicked, who at noon-day are as much in the dark as if it had never dawned.

Peter Bertius, in his geography, as John and Theodore de Bry do relate, collects the antiquity of those nations of America, from their most antient kings and lords, and from the ruins of antient edifices, and other memorable things; for this argues the largeness of time in which all this was done. Amongst other things he mentions the report of one of their gardens belonging to some king, (which must be of Peru, who were always the richest,) in which all the herbs, and plants, and shrubs, with their trunks, leaves, and flowers of their natural proportion, were of massy gold; and in the houses of recreation, there were all sorts of animals made of precious stones, and some of feathers of various colours. They say besides, that the Ingas, who were the emperors of Peru, were the richest princes in the world: and that they had so much gold, that not only the plate they eat in were of that metal, but all their household stuff and furniture were of the same, to their tables, benches, cupboards, nay, to the statues themselves; a great deal of which fell to the Spaniards' share when they conquered those parts; but the best part was hid and concealed by the Indians, which to this day they keep undiscovered, being in that way of secret intractable and extremely close. Neither is it any wonder that those princes should use so much gold, since they were masters of more of that metal than any others; being so beloved by their subjects, that whatever they had that was precious, they presented it to them; and they were so inclined to hoard it, that whoever succeeded in monarchy made it a point of state not to touch, but rather to increase the treasure of his father; of which a great proof was the vast sum which Atahualpa offered for his ransom, and paid to the Spaniards for it, as we shall see hereafter.

Amongst other precious pieces of gold work, authors make particular mention, and admire with reason, that chain which the king Guaynacapa, the eleventh king of Peru, caused to be made at the birth of his son Guascar., who was to inherit his crown, for each link of it was as big as the wrist of a man, (as is reported by Gareilasso de la Vega, who had it from an uncle of his, an Inga also, who told him, when he asked the bigness, as big as this, shewing his wrist,) and as long as twice the length of the great place of Cusco, which in all might be about seven hundred feet long. And the condator, Augustin de Varate, in his first book, chap. 14. treating of the incredible riches of that Inga, says these words: "Guaynacapa at the birth of his son, caused a great cable of gold to be made (as is attested by several Indians now alive) of so much weight, that two hundred Indians could but just lift it up from the ground; for memory of which they gave the name of Guascar Inga to the new-born prince; for Guasca signifies a cable; and the surname of Inga was added, as that of Augustus to the Roman emperors." Thus far this author: but this name, or word Guasca, not being so decent in its signification for a prince, they added the *r* to it, and nevertheless eternized the memory of that rich chain.

The chiefest motive the king had to order this chain to be made, was, that the dances which were to be made at his birth, might be more solemn and worthy of his royal person; because the manner of dancing of the Indians, is to take one another by the hands, and make a circle: and so moving two steps forward, and one backward, draw closer and closer to the king, to make their obeisances; and the king caused this chain to be made, for them to take hold of, instead of taking hold of one another.

A great proof likewise of this antiquity of the empire of Peru, is those two highways mentioned by Herrera; for being of that vast length, and worked with all those conveniences for travellers, they could not be made but by length of time, and with a long continued labour. This is what I find of the antiquity of the first inhabitants of America, in which we may comprehend the Indians of Chile.

## CHAP. II. — *Of the great Courage and Boldness of the Indians of Chile.*

THE Indians of Chile are famed by all who have writ of them, for the boldest and most valiant warriors of all the vast extent of the new world: it were to be wished by us, that this had not been confirmed by woful experience, for then the kingdom of Chile would have been one of the most flourishing kingdoms of the Indies, without the continual wars which it has maintained for about an hundred years, without ever ceasing, or laying down its arms. This is the more considerable, if we reflect, that the Spaniards having subjected, in so little a time, those vast empires of Mexico and Peru, have nevertheless not been able, in so great a time, to conquer the Indians of Chile, sons of the great Cordillera, from whose rocks they seem to borrow their untameable strength and fierceness. Except we should say with Friar Gregory of Leon, that this bravery comes from the fertility of the earth, which, as he says, and is true, does not need any thing from abroad. To which he adds, the birth of these people, who all their life tread upon so much gold, and drink the water which runs over these rich minerals, by which they participate of its good and generous qualities, as it is observed of those who live at Potosi, near that vast mountain of silver, who are so stout and haughty, as has appeared in the many revolutions that have happened there. Let this be as it will, all authors agree, that they are the top nation of America,

though hitherto no one has treated purposely of this matter. There are now two histories in the press, which will make out, by particulars, all that has been said of this nation. Don Alonso de Ercilla says enough, in his famous poem called the *Araucana*; but because it is in verse, it seems to lessen something the real truth; and yet abstracting from the hyperboles and enlargings of poetry, all the historical part is very conformable to truth, he being a gentleman of great quality, and an eye-witness of what he affirms; for what he wrote was not by hearsay, but upon the very spot where the things happened; so that he might have had as many contradictors as he had witnesses, who were present as well as he at what passed.

He dedicated his book to the most Catholick King, his lord and master; and presenting to him with his own hand, when he came from Chile to Spain, it is to be presumed he would not have dared to fail in the exactness of truth, for fear of receiving a chastisement, instead of a reward, which he obtained for it. Let any read his prologue, in which, in a very good style, and in prose, he gives a noble account of the valour of the Indians, and concludes his preface with these words:—"I have said all this, as a proof and clear demonstration of the valour of these nations, worthy of all the encomiums I can give them in my verses; and besides, there are now in Spain several persons who were present at many of the actions which I here describe, and refer to them the defence of my work on that side." Thus far this author, worthy of immortal praise for his incomparable book, which, though published above fifty years ago, and printed in Spain and Flanders, is yet continually reprinted; which shows the value the curious and the learned have for it. The *Araucanos* are indeed the chief subject of it; and yet what is said of them may be extended to all the Indians of Chile, as we shall see in its proper place, when we shall treat of the wars they had with the Spaniards.

But before ever the Spaniards set their feet on their ground, they had given sufficient proof of their bravery, which was invincible, to the *Ingas*, emperors of Peru, since with all their power they could never conquer them, though they endeavoured it, as being extremely inclined to enlarge their dominions; and they desired it the more, for the fame of Chile, to which they sent a powerful army, and which made some progress at first, subjecting some nations to extraordinary tributes. But as they pursued their point, and came to the valley of Maule, they met with the *Promocaes*, to whose succour the *Chilenos*, who inhabited more within the country, were come, and forced the army of the *Ingas* to retire in haste. Garcilasso de la Vega relating this more particularly, says,

That the Inga yn Pangué, the tenth king of Peru, came to the confines of his own kingdom, to a place called Atacama, to be nearer at hand to attend the conquest of Chile: and from thence first sent his scouts through the fourscore leagues of uncultivated country, which was between his kingdom and Chile, with orders to dispatch a man, every two leagues, with an account of what they discovered; which they did, one messenger following another, and leaving in the way certain marks, whereby they that came last might guide themselves. He first sent ten thousand men, under the command of General Sinchiruca, and two other colonels of his own kindred, not being willing to commit to any other's care so great an enterprise. They came within sight of the valley of Copiapo, which is the first inhabited valley of Chile; with the inhabitants of which, the Peruvians began to skirmish, because they had not admitted the embassy which they sent them as from the Inga, to own him for their lord; and withal, having given notice of the resistance they found to the Inga, he sent them ten thousand men more, with a new summons, assuring them, that his design was not to take their

country from them, but only that they should own him as son of the sun, and lord of all that was warmed and enlightened by him. Those of Copiapo seeing this new relief to their enemies, and knowing that it would not be the last, because the Inga yn Pangue was preparing another succour, and being convinced that this acknowledgment would cost them less than the blood that must be spilt in a long resistance, they agreed to own the Inga as he desired.

This was the first entrance of the Peruvians as far as Maule, which is one of the rivers of Chile, as has been said already. By this time, the army of the Peruvians was fifty thousand men, and desiring to prosecute their conquest, they sent their ordinary embassy to the nation of the Promocaes, who having already been informed of their invading their neighbours, were in arms to defend their country. The ambassadors of the Inga delivered their accustomed message, protesting, that their lord designed nothing more, than to be acknowledged as son of the sun, and honoured accordingly by their submission. The Promocaes, who were resolved to defend their liberties, made answer, "That the conquerors should be the lords and masters;" and so uniting all their forces, came on the fourth day, and presented battle to the Peruvians. The Inga's generals, surprised at such a courageous resolution, sent them a new summons, desiring their friendship and peace, calling the sun and moon to witness, that they came not to spoil them of their lands or goods, but only to oblige them to own the sun for their God, and the Inga for his son and their lord. To which they received answer, that they came not to spend time in talking, or vain discourses, but to fight manfully till they should conquer or die; adding, that they might prepare themselves for battle the next day, as it happened; and the Promocaes overcame that powerful army of the Inga's, so that they had no mind to try their fortune any more, but made their retreat, leaving the Promocaes in peace, and full possession of their lands, which they had so bravely defended. Antonio de Herrera, in his third tome, and fifth decade, treating of the reason why those of Chile refused to submit to those monarchs the Ingas, says, that it was because of the great reverence with which they made their subjects treat them, as if they were gods, and approach them as if they were another species; which the Chilenians could not bear, their mind being too lofty and generous to submit to such a tyranny, which they constantly opposed; insomuch, that though the Ingas had conquered the best part of that continent, yet the Chilenians never did yield to their power. Perhaps the nearest provinces to Peru, such as those of Guaico, Coquimbo, and Copiapo, did in some measure acknowledge their power, since they paid a tribute in gold; and for that reason, these provinces alone in all the kingdom of Chile, do speak the common language of Peru, which is a very strong proof of what I here say.

For the same reason that they resisted the Ingas, they did not care to have any king of their own nation, the love of their liberty prevailing against all the reasons of state, which might move them to have one monarch; neither did they fall into any popular form of government, or commonwealth; for their warlike temper did not afford patience enough for the phlegmatick debates, necessary for the union of so many minds. Thus every family chose one among them to govern them. From this arose the Caciques, who are the sovereigns among them, and by degrees had that power hereditary, and their children after them enjoy it, with all its rights.

But though every one governs independently his own district or jurisdiction, yet when the occasion offers, that the safety of all is concerned, there is an assembly of the Caciques, and some of the elders of the people, who are men of experience, and are summoned after their way by particular messengers. In these councils they resolve what

they think most convenient ; which, if it be a case of war, either defensive or offensive, they chuse the general, not one of the most noble of the Caciques, or the most powerful, but he who has the fame of the most valiant, and has best behaved himself on the like occasion against their enemies ; and when he is justly chosen, all the other Caciques obey him punctually. It is after this manner that they have preserved themselves so many years against all the strength that has been brought against them. To make these assemblies, they chuse out some very pleasant place, field, or meadow ; and thither they bring great store of provision, and strong drink, called Chica, which is instead of wine. Being all assembled, and well warmed with this liquor, and excited in their martial temper, there rises up one of the most ancient, to whose lot it falls, to propose the business of that meeting ; who with great eloquence (for in that they are very famous) opens the matter, and brings all the reasons and motives of persuasion that he can. All are obliged to yield to the majority of opinion ; and when the result is made, it is published with the sound of drums and trumpets, and a mighty noise ; but yet allowing every one the term of three days to reflect and consider on what has been resolved ; after which, if they find no inconveniency, the execution is infallible, and they think of the means of bringing the business about by the most proper methods.

CHAP. III. — *The same Subject is pursued, and the Nobility of the Indians of Chile examined.*

ANTONIO DE HERRERA, in the place already cited in the last chapter, says, that there are some of the Indians reputed above the rest as gentlemen ; and then he adds these words, “ Of this sort have been, and still are, the Indians of Chile.” In which he says well ; for if valour and the glory of arms make gentlemen, as may be seen in Andreas Tiraquello, in his book *De Nobilitate et Jure Primogenitorum* ; and if many noble families do to this day derive themselves from some great captain or famous soldier, the Chilean Indians having so often signalized their valour in fights, they may very justly be distinguished from all the other Indians, and reputed more noble. In short, they are the untamed Cantabri of America, who, like those of Europe, defended themselves, when all the rest of it was enslaved ; and repulsed the conquering monarchs of Peru to the extreme confines of their provinces.

And there is one circumstance more particular than under the Cantabrians, because they had the advantage of their mountains, and the barrenness of their country, not so inviting to a conqueror ; but in Chile it was otherwise : the richness of its mines, and its soil full of delicious valleys, and a clear and rich territory, having been always well known, the only valour and bravery of its inhabitants was then the defence of the country : these were the fortresses and walls of it ; for without a bit of fortification of any sort, or so much as one fire-arm, they obliged their powerful enemy to a shameful retreat. Indeed, this is a thing worthy of great admiration ; yet not so much to those who know how these Indians value themselves upon being good soldiers, using themselves to arms, even from their childhood ; of which, it will not be amiss to speak a little.

When a child is strong enough, they make it run up the rocky side of a hill, giving him that does it best, some prize or reward : this makes them very nimble and light ; and I have seen them, in their feasts and entertainments, run two and two for wages with wonderful swiftness ; and those who shew little disposition to this exercise, are applied to follow day-labour, but the others they reserve for war, not suffering

them to take any other employments, but mind their arms and their horses, that they may be perfect in all their exercises. To these they assign their post upon occasion, according as each has behaved himself in those which he has been in before; and they have in this no consideration of gentility, intercession of others, or other motives, but that alone of a good performance, and the many proofs given by them of their courage and conduct in war.

The arms they use are pikes, halberts, lances, hatchets, maces of arms, bars, darts, arrows, and clubs; as also strong nooses to throw upon a horseman, and slings. Their horse fight with lance and buckler, which they have learned from the Spaniards, and from them they have had their horses; for before their time, they had neither horse nor iron, but they have a hard wood, which grows yet harder by being turned in the fire, and is almost as useful as steel. They have hard and strong corselets, back and breast, and thighs, arms, bracelets, gauntlets, helmets, morions; all these of a hardened leather, so prepared when raw, that it becomes by drying as impenetrable as any steel; and they are something better, because more manageable, and do embarrass the body less, as being lighter; and so the man is more at his ease, and better disposed in fight. Among them the pikeman may not be an archer; neither can any that uses the mace of arms, use other arms; so every one bestirs himself with the arms he is used to.

In forming their battalions, every file is of above an hundred men, and between every pikeman an archer, who are defended by the pikemen, who close their shoulders together; and if their first battalion is broken, the second relieves them with so much readiness, that there seems not that any have failed; and so by the third and fourth following each other, like waves of the sea, without any interruption; and no man forsakes his rank but by death. They always endeavour to have some bog or lake not far off for a retreat; for there they are more in safety than in the strongest castle. Their volunteers go before the battalion, trailing their pikes with so much state, and are themselves so haughty, that, like Goliath, they challenge their enemy to meet them body to body; and they do the same to the Spaniards, giving themselves great airs of pride. They march to the sound of their drums and trumpets, having their arms garnished with all variety of beautiful colours, and themselves adorned with great plumes of rich feathers, so that they appear very handsome and lightly.

When they make any forts for their defence, it is of great trees interwoven with each other, and leaving in the middle a place of arms; and formerly within this fort they used to make another of thick planks. Behind this, they make a great ditch, covered over with plants and flowers, but underneath them sharp stakes to lame the enemy's horses; some they make deeper, that the horses may remain there staked through.

Many of them are subject to great superstitions and auguries, observing the omens, both before and at the time of their undertaking; but many of them laugh at those observations, saying, there are no better omens than good blows, and stout laying about them, without fear of either steel, fire, or any sort of death; and it is certainly so, that their first encounter is terrible, and as if they feared no one thing in the world. When they are drawn up, and ready to engage, there is silence made, and the general raising his voice, begins an harangue, so full of spirit, filled with such warm incitations, and such a lively action, that the cowardliest among them become like lions and tygers, against their enemies. He lays before them the glory of victory, and the shame of being overcome, and made captives and slaves to their adversaries. "Take notice," says he, "that there is now no medium between those two extremes: are not you the

sons and grand-children of those brave men, who have fought so many battles, and ventured all to defend that country and liberty, for which we now fight? Shall we own that they exceed us in bravery, or that the enemies we encounter are superior to those whom they overcame? Had they less motives than we have? or do we hope for less glory? We must all die; and in the equality of that common fate, the only difference is dying nobly for our dear country, and the liberty of our wives and children; therefore rouse up that courage which you have inherited from your ancestors, who never could endure the thoughts of that infamous yoke of slavery upon their necks. Courage then, brave men, as brave as any the sun sees; courage, for in that lies victory."

With these, and other such words, and calling to mind some of their victories, they grow so warm, that raising a cry of war, they drive away all fear, and express great desire of engaging their enemies; which they do with so much fury and resolution, that a battalion that stands their first shock is a very firm one. But we will treat further of this when we shall speak of the battles they have had with the Spaniards, whose valour has set theirs in its lustre, obliging them to give such proofs as are worthy to be recorded in history. Let us pursue now the account of their natural qualities, independently from the resistance which they have made to His Catholick Majesty's arms.

The warlike spirit of this nation proceeds from their natural temper, which is cholerick and impatient, proud, arrogant, and fierce, very cruel in their revenge, cutting their enemies (when in their power) inhumanly to pieces, and wallowing in their blood. We shall relate a case hereafter, in which something of this will be seen. They are strong and robust of body, well proportioned, large shoulders, high chests, well set in their members, nimble, active, vigorous, and nervous, courageous and undertaking, enduring hunger, thirst, heat, cold; despising all conveniencies of life, even their own small ones, having little value for their very lives, when it is necessary to hazard them, either for glory or liberty; constant in their resolutions, and persisting in a thing once begun with incredible steadiness.

They are excellent horsemen, and upon a single saddle-cloth, or without one, they are as firm as others in war-saddles: they will ride down the side of a hill, or a precipice, as if they were goats, with their bodies as straight and as firm on horseback, as if they were nailed to the horse: they have no trouble with the baggage they want, for they carry but little with them; not but that when they march they have their little pack of flour of maize, a little salt, some Pimientos, or Guinea pepper, and dried flesh; and this is enough to maintain them a good while. They need no other kitchen utensils than a gourd or calabash, with which, when they come to a river or spring, they open their flour-bag, and wet a little with the water, and that serves them for drink; and for meat, when they put more of it with a little salt and pepper, this they call Rubul; and sometimes they eat their meal dry, with slices of dried flesh.

The great numbers of people which that country has maintained, may be collected from the people that the Spaniards found there at their first coming, which was about 200,000, more or less, according to the greatness of the districts or territories, and their habitations, which never were in form of a city or town; for the Indians cannot endure any formal constraint, but love to live free in the fields; and every Cacique, or lord, governed his own vassals, who placed themselves according to their conveniencies, some in one valley, and some in another; some at the foot of mountains, others on the side of rivers; some by the sea-side, or on the top of mountains;

tains; but all under no other form of government, than the will of their lord, the Cacique, to whom they yielded a ready and prompt obedience with joy. Their houses are generally of wood, without any stories, not very large, nor all of a-piece, but each room framed by itself, so that when they have a mind to remove and chuse another situation, they carry away the house by pieces, or rooms, which ten or twenty men can easily carry. When they take it up, they clear the ground about it, and then at one cry, lifting all together, they get it up, and carry it chearfully away, every one taking hold by its pillars; and when they are weary they rest awhile, and so on again. Their doors are of the same material, and they have neither hinges, locks nor keys, nor any thing under a lock or key, their security consisting in each other's fidelity, which they observe sacredly towards one another.

Their furniture is very mean, they being a people that despise all conveniencies and superfluities; infomuch that that which is their natural way of living, would be high penance with any European nations: for first, as to their beds, they have neither quilts, nor sheets, nor pillows, much less do they need curtains, pavillions, or alcoves. The hard ground is their couch, upon which they lay some poor skins; and for bolster, they lay a stone, or a piece of wood, and double their cloaks to lay on it; and that is their highest contrivance of ease: they have one or two very coarse coverlets, which they weave of a sort of thread as thick as one's little finger. People that use so little about their persons, may easily be presumed to have no hangings, nor other ornament to their walls; they have no utensil of gold or silver, though they have so much in their country; their plate is four or five dishes, and some spoons of wood, or a shell from the sea-side; a calabash or gourd to drink in; a leaf of a tree, or of maize, for a saltcellar. This is all the apparatus of their table, which is the ground, or at best a little bench, without any cloth or napkins, but only a little broom, upon which they wipe their hands.

Their meats are the most simple, and easily drest, without any incitements to gluttony, as in other nations; but yet they are tasteful enough, and such as many of our Europeans like very well. They eat little flesh; and before the Spaniards came among them, they had neither sheep, goats, nor cows, no, nor hens: they use these only at their great feasts. Their ordinary diet is of maize, variety of fruits and herbs, and most commonly gourds, or a sort of beans, which we call Frizoles. They did eat fish; and the game they hunted, particularly a sort of small rabbits, which they call Degus; and since the coming-in of the Spaniards, they eat beef and mutton, of which there is great abundance.

Instead of wheat bread, which they had not before the Spaniards brought it, they eat maize boiled in water, just as rice in the East Indies. This maize is, and always has been the general nourishment of the Indians of America; and is not only their meat, but their drink, which they make of the same maize, toasted and steeped in water, and then boiled, and set by; and that is their Chicha, or wine, which they make also of the fruit of other trees.

Their way of making flour is very different from ours: they first toast their maize in great platters of earth; these they set upon the fire full of sand, which, when it is very hot, they take off; and putting the grains of maize to it, stir them about very fast with a kind of broom: it is soon toasted. When done, they take it out, and put in more, till they have done enough to make flour. This they grind between two stones, thus: they have a stone fixed in the ground, of about the shape and bigness of a sheet of paper, and so hollowed, as another stone of an oval figure

figure may play upon it: this the Indian woman takes with both hands, and being upon her knees, makes it play upon the other, putting, from time to time, with her left hand, the maize between the two stones, so as to supply what falls away, and that the mill do not stand still. The flour falls forward into a sort of box, as it does in our mills, and almost as fast, comparing the strength of a woman to that of a stream of water. She can do enough at once for the maintenance of her family; and make a provision too for a journey or a voyage of her husband or son to the wars. This is the proper business of the women; and it would be a shame for a man to employ himself in it, or in any other household business.

#### CHAP. IV. — *Of the same Subject.*

WHEN the Indians are sick, they change little of their ordinary way of living, and they never have a better bed. Their way of letting blood is safer than ours; for it is not with a lancet, which may either fail to draw blood, or go too deep, and lame the arm, if the surgeon be not very skilful; but with a sharp flint, fixed at the end of a little piece of wood, so fast, that there is just enough left out to cut the vein, and no more: this they apply to the vein after they have made a bandage, as we do, and striking a little stroke upon it, the blood never fails to come, in greater abundance than our bleedings are. This is all they need a surgeon or barber for, they themselves having no beards to shave, and the little hair they have, every one pulls out; and they take it for an affront to look hairy. They have pincers, which they make of cockle-shells, and always have them about them, using them from time to time in conversation; they thinking it as honourable to be without that, which other people nourish, comb, and take care of; which is a good conviction of the variety of opinions of mankind, about what is, and is not honourable. As for their hair, they let it grow just below their ears, and no lower, and so need no barber to cut it, but do every one help the other to keep the ends of it even.

Their manner of cloathing themselves, (though of various and very beautiful colours, which they give to the wool that they weave their cloaths of,) is very plain and simple: they have no lining to any of their cloaths, neither do they wear one under another: their drawers come down to their knees, open and loose, and it is upon their naked body, for they use no shirts: they have a sort of waistcoat, which they call Macun, and it is made of about a yard and a half of some woollen stuff, which they leave open, so as to put it over their heads, and then they gird it with a girdle: they have also a kind of cloak or mantle, which they call Chomi, which they put on when they go abroad: they have their arms and legs naked, and on their feet they have a sort of shoe, which they call Ojota, and is like the rope-shoes the Spaniards wear: they wear nothing on their heads, but a kind of circle of wool, of various colours, with its fringes hanging down like a cap; which they stir or pull off in shew of respect, as we do our hats.

In their feasts, balls, and rejoicings, though they do not change the form of their cloaths, yet they have a richer sort, of finer wool, and richer colours: they put about their necks some chains of shells, which they gather by the sea-side; these they call Nancas: others put snail-shells, strung upon a string, about their necks; and those of the straights of Magellan have pearls very well wrought, and of great artifice, as is affirmed by the authors already cited; and on their heads they put a kind of garland,

not

not of flowers, but of wool, dyed of several beautiful colours, to which they hang fine little birds, which they esteem, and on each side they have a plume of high feathers, either white, red, or blue, and about half a yard high.

Their way of dancing is with little jumps, and a step or two, not rising much from ground, and without any capers, such as the Spaniards use: they dance all together in a ring, round a may-pole or standard, which one of them holds in the middle as an ensign; and near it are all the bottles of their wine, of which they take now and then a sup while they dance, drinking to one another; for it is a custom among them never to drink alone any thing that is given them: he that begins takes a sup, and then he that he drinks to pledges him, and gives the cup to another, and so to a fourth, till it be empty; and yet one has not more than the other; for what this man does for that, that man does for this; and so at last they come to be so equally shared, that at the end of the entertainment, they are all alike drunk, and laid down; for they drink as long as they can stand. But this is not easily brought to pass; for besides what they drink in the day-time, they will often pass all night at it, without leaving off, singing and dancing to their drums and flutes. The women, as more bashful, do not enter into these dances, except some one or two, when the wine has got into their heads, and then too they do not enter into the ring with the men, but dance by themselves. Few of them get drunk, so as to lose their judgment; so they are upon their guard more, to mind that the men do not quarrel, and hurt one another in their drink. Their flutes, which they play upon in these dances, are made of the bones of the Spaniards, and other enemies, whom they have overcome in war. This they do by way of triumph and glory for their victory: they make them likewise of bones of other animals; but the Indians of war dance only to these of their enemies.

Their way of singing is, all together raising their voices upon the same note, without any difference of parts or measure; and at the end of every song they play on their flutes, and a sort of trumpets, just as we do on our guitars in the Passacalles. This they repeat so often, and so loud, that one may hear them at a great distance; for in these feasts, they are very numerous. Those who are not engaged in dancing, sit together in several companies, talking together upon past occurrences, and still warming themselves with their wine; and then they begin to recollect the injuries they have received from one another, and so refreshing the memory of old contests and enmities not revenged; and this makes them break out into new animosities, and sometimes kill one another upon little provocation.

The women as well as the men have their arms naked, but no other part about them; for though they go barefoot, yet their cloaths, which are very long, cover them from head to foot, though in some places they wear them shorter: this is a plain sort of mantle, close to their bodies, without any linen underneath; this they let fall to their feet, and having fastened it on their shoulders, gather it in plaits, and swathe themselves from their waist to the breasts with some fine coloured woollen scarf, of about four fingers broad, and so long, that it takes so many turns about their waist, as to keep their bodies as straight as any: this is all their dress within doors.

The Indian women of the better sort, that live in towns among the Spaniards, have learned the use of smocks and waistcoats under their mantles, but of no other thing; and one cannot affront an Indian woman more, than to offer to put her on head-cloaths, or necklaces, or sleeves, or gloves, or any of those ornaments which the Spanish women use; and much more if they oblige them to put any paint upon their faces; nothing

of this kind could ever prevail upon them, though born and bred among the Spanish women; and to talk to them of it, even to those among them who love to be fine, would be like giving them a cut over the face, so great a horror they have for any thing that is so very contrary to their ancient customs. They wear nothing on their heads, but their hair plaited behind their shoulders, and divided handsomely upon their forehead over their eye-brows, and have locks which cover part of their cheeks; so their face is handsomely and simply adorned, without any artifice. When they go abroad, they put upon their shoulders another half mantle, square, and fastened before with a bodkin, or crotchet, which answers the two others on the shoulders; and thus they go abroad with their eyes fixed upon the ground; for they are naturally very modest honest women.

This manner of cloathing themselves, with so much simplicity and plainness, as well in the women as the men, with so little pride and vanity in their houses, does not much encourage artificers, who have little to do; and by that means there are the more men of war, which is the thing in which these men place their honour and felicity, as other nations do in the sumptuousness of palaces and furniture, or in other riches and eminences, either of arts or learning: of all which these Indians never had any notion; and yet they learn them easily, when they are taught them, and to a great perfection. They can neither read nor write among themselves; but as to their way of remembering and keeping account, they have their Quipoes, which is a sort of strings of different bigness, in which they make knots of several colours, by which they remember, and can give an account of things committed to their charge. With these they will give an account of a great flock, and tell which have died of sickness, or other accidents, and which have been spent in the family, and for the shepherds; and they will tell every particular that happened in such and such occasions, and of what they did and said. When they go to confess, these Quipoes serve them to remember their sins, and tell them with distinction and clearness: they have besides excellent memories of their own, and do remember things of very ancient date, just as if they had happened but a little while before; and when they begin to talk them over, (which happens generally when they drink, and begin to be warmed with wine,) it is wonderful how they will repeat things past, with all their circumstances, and particularly affronts and injuries that have been done them, or their ancestors, refreshing the memory of things that seemed to be quite forgotten. For proof of the care they take to keep the memory of remarkable passages, I must relate here what I learned from Father Diego Torres Bollo, a very extraordinary man, both for holiness of life, and skill in government.

This great man returning from Rome (whither he had been sent as procurator of the province of Peru) to found the province of Quito, he saw in a place where four ways met, an Indian, who, to the sound of a drum, was singing a great many things all alone in his own tongue: the father called one in his company, who understood it, and asked him what that Indian meant by that action; who told the father that that Indian was, as it were, the register of that country, who, to keep up the memory of what had passed in it from the deluge to that time, was bound every holiday to repeat it by the sound of a drum, and singing, as he was then doing. He was moreover obliged to instruct others in the same way, that there might be a succession of men to do the same thing after he was gone; and that which he at this time is singing is, that in such a year there had been there a white man called Thomas, who did great wonders, preaching a new law, which in time was lost and forgotten, &c. And thus we may see the manner by which the Indians supply the want of books and writing.

The women of Chile are so bold and manly in their courage, that when it is necessary, and that there is want of men, they take arms, and behave themselves as if they were men. They play likewise at a very active game called La Chueca, wherein the men shew their greatest agility and nimbleness, each side striving to get a ball from the other, and carry it to the mark with crooked bandy sticks. They are about forty or fifty on a side, who place themselves in different posts, so as to be useful one to another, and drive away the ball from the other party; and when it happens that two of different sides are at it together, it is a pleasure to see them run, the one to forward it with another stroke, and the other to get before him and hinder him from striking it, that he may drive it back to his own side. This is a sport much to be seen, and generally it has many spectators to see the end of the play, which often lasts a whole evening, and sometimes is forced to be put off to another day; such contention there is to win these prizes they play for.

The strength and boldness of the women comes from the little tenderness they are bred with, for they avoid neither heat nor cold; and in the coldest winters, when birds are killed with cold, they wash their heads in cold water, and never dry their hair, but let it remain wet, and dry itself in the air; and as for their children, they wash them in the rivers, when they are yet very young; and when they are brought to bed, in a very little time they are about the house, as if it were not they, but some other woman that had lain in.

If the women behave themselves thus, what may be expected from the men? It is a wonderful thing how little they fear weather, though in the midst of winter; and to see an Indian, with that simple habit we have described, his head bare, without hat, or any other covering. I have seen them in this condition endure mighty showers, which wet them all over, and came out at their breeches, and yet laugh and not value that which to others would have been insupportable.

I remember, upon this occasion, what was said by a Spanish gentleman of a merry humour, to one newly come from Europe, who, with great charity, was pitying these poor Indians for their sufferings in winter, which in that country is very severe. The gentleman asked the good father what he had to keep his face from the cold? To which he answered, nothing, because every body's face was used to the weather. To which the gentleman replied, these Indians are all face; for from their infancy they have no defence against the cold. Who is it that pities a trout, or other fish, for being in the water, because they are bred in that element? the same may be said of these Indians, who are like fishes, and are bred to all that hardship; and so we need not wonder at it. By these means they are so hardened, that a wound which the bravest Spaniard would take his bed for, does give them so little trouble, that I have seen them go about without minding it. I have known them have a broken head by accident at play, and all they do is to wash it in cold water, never leaving their employment or business; and with this, and the application of their own herbs, which, indeed, are of great virtue, they are soon well; but the excellency of their own constitution helps not a little to their cure in wounds, as well as all other distempers, out of which they get well with a great deal less time and care than the Spaniards.

CHAP. V.—*Of other Qualities proper to the Natives of Chile.*

FROM this strong constitution comes the admirable patience of their minds, and the little sense they shew of that which amongst us Europeans would be a great mortification. That which happened between an Indian and Father Lewis of Valdivia is admirable upon this subject. The Indian came to confess to the father; who, to make him enter into a penance for his sins, ordered him to wear a cilice, or hair-cloth, upon his skin: it was a very hard one, and such as would have punished one of us severely. The Indian put it on, and about a year after, there was a procession of the holy sacrament, at which he danced, and seeing his confessor in the church, he left his dancing, and came to him saying, "Look here how I have preserved what thou gavest me a year ago," and shewed it him upon his naked skin. The father was astonished to see, that what he gave him to mortify him, was turned to an ornament; and asking him how long he had worn it, was answered by him, "I have never left it off one minute since thou gavest it me;" and so returned to his dancing, shewing his companions the present the father had made him, as pleased with it, as if it had been a gold or silver brocade; and so far he was from taking it for mortification, or feeling its roughness, that he wore it for a favour given him by his father confessor.

These Indians of Chile are the fairest complexioned and whitest of all America; and those of the coldest countries are the whitest, as we see in Europe; but the very antipodes of Flanders never came to be so white as the Flemings; and among all the Chilenians, I do not remember a red-haired one; for they all, both men and women, have black hair, and that very rough, and hard, and thick; insomuch that the mestizos, or mungrel breed of a Spanish man and Indian woman, are known and distinguished by that from the children of a Spanish man and Spanish woman; and this will last to the second and third generations before it softens. There is little difference in any thing else, either of shape, feature, or disposition; nor in the manner of speaking, or sound of the voice; and as for the language, not only the mestizos, but the Indians bred among the Spaniards, are as ready at the phrase and turn of the Spanish tongue, as any Spaniard. I have made experience of this often in confessing them; for the confessional is so turned, as the father-confessor cannot see the woman that enters to confess. It happened to me often to have an Indian woman come in after a Spanish woman, and I could not find any difference, till she herself, finding I used her with that distinction and civility due to Spanish ladies, would humbly tell me she was but an Indian.

The constitution of these people is the cause that time does not make so strong an impression on them, as on us; and they bear their years mighty well, turning grey very late, at three score or thereabouts; and till then they look like young men. When they are over white, or have any baldness, you may guess them at about an hundred: they all live long, and particularly the women; and when by age they lose their judgment, they seldom falter in their memory, which lasts them to their dying day, even to remember all the particulars of their young days from their infancy. Their teeth and eyes are so good, that they seldom lose either; and, in short, all the infirmities of old men, which are the forerunners of death, come to them later than to the other nations. But yet, if they happen to go out of their own country, they lose all their vigour, as we experience daily in our prisoners of war; who being sold to Peru, as soon as they feel the heat of the tropic, they fall sick, and most of them die: and this is no more than what happens to the Spaniards, when they come from their

their own climate to Porto Bello, or Panama; nay, the Spaniards born in Chile venture their lives that go to those countries that are between the tropics.

From this experience the Indians have of the hot countries, comes the great reluctance they shew to go out of their own, and the resentment they express against those who carry or send them abroad: and it is not to be imagined the strange and rash contrivances they have to make their escapes from Lima; for though they have above five hundred leagues to go to their own home from Peru, yet they undertake it, and most commonly compass it, through a vast number of dangers and inconveniences. For first, they are forced to go all along by the sea-side, by which one may guess how much they go about, since they fetch the compass of all the bays and nooks, and double all the capes.

The next inconvenience which they meet with, is want of food; for they dare not enter any town, or inhabited place; so they are reduced to feed on cockles and other shell-fish on the sea-side, which is no very good nourishment. The third difficulty is the passing of so many and such swift rivers.

The fourth inconvenience is the want of water to drink; for it is not possible, that in so great a journey they should not sometimes miss of fresh water to quench their thirst. All these difficulties, and many others, which are obvious to travellers, are overcome by these Indians by length of time and patience; and they get at last to their own country, and are out of slavery, not by the means of gold and silver, but by the bravery of their minds.

The boldness of some other Indians was yet more remarkable: these were carried in a ship to be sold as slaves at Lima; by a Portuguese gentleman of the Habit of Christ, who was going about things belonging to war, at the time that I went the same voyage: this navigation is made commonly in sight of the coast, more or less, according as the winds serve; but still they keep a good way out at sea, for fear of the rocks. These Indians resolved among themselves to throw themselves into the sea, to avoid this slavery; and one day, when they found the ship in a proportionable distance to the shore, so as they durst venture to trust to their swimming, they got loose very dexterously from their fetters, and slid, without being perceived, down by the ship's side into the sea; and when they missed them they were out of sight, and so it was in vain to follow them. Among these prisoners there was an old man, who either because he was not trusted by the others, or because they had not the opportunity of acquainting him with the design, he not being shut up with them, but having the liberty of the ship as an old man, remained behind after they were gone. This Indian began to think of the thing, and to weigh with himself how his companions had undertaken and performed an extraordinary action; he reflected how they had arrived at their own land, and among their friends, who perhaps were inquiring about him, and that every body despised him as a coward, and a man of little spirit, since he had not been able to overcome the adverse fortune which the others had conquered, but had submitted to it: he represented to himself the welcomes and joys which their friends expressed, and the feasts and entertainments made for their return, and the embraces and caresses which they received from their relations. All this, I say, made such an impression on his mind, and raised such an emulation, that he could not bear the reproaches he made himself, particularly seeing himself without a remedy. At last, after much thought and pensiveness, he came to a resolution, which was, to do something which should be bolder than what his companions had performed, and that in the manner of doing it; for he resolved to do it by day, and in the sight of all the Spaniards; and for a beginning, he designed to kill his master, not in the night, and

without witnesses, as he might easily have done, but upon the deck, in the sight of all those in the ship, to get himself a greater name of bravery. To this end, he took one day, a great knife in his hand, and fell upon the captain; and having wounded him in several places, with as much precipitation as he could, leaped overboard with so much suddenness, that he slipped away from those who endeavoured to seize him. It is to be imagined they were all wonderfully surprized at the resoluteness of the action: they immediately brought the ship to, and put out the boat in all the haste that could be to follow the Indian, who, swimming like a fish, was already almost out of sight; but they overtook him, and bid him yield himself a prisoner, since he could not escape; and finding him still endeavour to get away, they struck at him with their lances, but he dexterously avoided all their strokes with great presence of mind, diving and appearing again where they least expected him. Upon this they fired upon him, and wounded him in several places; but neither then did he yield, nor would ever have had a thought of it, but the loss of blood taking away his strength, had made him unable to get away, so they brought him almost expiring to the ship, having more valued death with the reputation of a brave man, than life with the infamy of a coward, and the loss of reputation among his own people. This fact does not only shew the bravery of the nation, but likewise their great aversion to go out of their own country, and how heavy a yoke they think subjection to be; and we shall see hereafter how much they have done to defend their beloved liberty.

Now let us speak of some other customs these Indians have. They solemnize their marriages their own way, and in a very contrary manner to that of the Europeans; for as to the portion, the woman does not provide it, but the man; and neither of them enjoy it, but it passes to the propriety and use of the father of the young woman; so that the husband has a charge upon him of maintaining his wife without any help; nay, rather with less ability, for he parts with some of his substance to purchase her: so that in this country it is no charge at all to have many daughters, but rather a part of their estate and substance.

They take many wives; and the greatest obstacle they have to be converted to our religion, is this vice of polygamy, which they embrace with great sensuality, though it is chargeable, because at the same time it is a figure of power and riches. The first wife has some pre-eminence over the others, and has the ordering of them, yet they all look upon themselves as lawful wives, and their children as legitimate; yet the son of the first inherits the estate and the honour of Cacique, and has a power over his other brothers.

The subjects obey their lord with great punctuality, love, and respect; and for this reason they have no strong places or prisons to hold them in; for their natural love and respect they bear their Cacique, is a law inviolable in their hearts, and a reward of their obedience, which they show in all regards that may please him.

When a Cacique has a mind to make war, he need not make provision of money for pay, without which, amongst us, men will not fight, even for their king. He need only give out his orders, and they all come with arms and horses, bearing their own charges during the enterprize; and this is the reason that they can assemble so powerful an army in so little time, they all looking upon the common cause as their own; and as they make the good of their country the motive of their arms, every one thinks himself sufficiently rewarded if they can defend that from their enemies. The sound of the drum and trumpet is only to shew them the necessity of their meeting in arms; at which they immediately leave wife and children, and all that is dear to them, with the hazard of never seeing them more, as it often happens.

In the distribution of the booty and slaves taken in war, there is no other method, than that every one has what he can get, so that the bravest and most diligent are the best provided, without any obligation of giving any part of it to their captains or general; for in this they are all equal, and valour alone makes the distinction, which they show in an eminent degree, being very desirous to recover some of our arms, such as guns, swords, lances; for they have no iron of their own. When they return from war, and find what men they have lost, it is incredible what lamentations, cries, and tears, proceed from the widows and children of those who are dead; and though this be a common sentiment of humanity, practised amongst all nations who value society and proximity of blood, which are the foundation of friendship, yet the Indian women seem to surpass all others; for they do not cry in secret, but set up their notes, so that when any one hears them at a distance, it provokes more to laughter than moves to compassion. When a man dies at home, the manner of their expressing their sorrow is more remarkable; for the women all get about the dead body, and the eldest beginning, the others follow all in the same tone; and thus they continue a great while, so that they never give over as long as they can hold out; and this custom they preserve, even after they are baptized, and live among Christians; but not that which they had of opening the dead bodies, to know of what disease they died, and to put meat, and drink, and clothes in their grave with them, as also jewels and things of value; neither do they cover their graves with pyramids of stones, nor use other ceremonies practised by the gentiles of those parts.

#### CHAP. VI. — *Of the Chilenian Indians, who inhabit the Islands of Chile.*

WE divided the kingdom of Chile into three parts, and the Islands made one: these are very well peopled: those who live in the fertile islands, which are capable of producing corn, and feeding flocks, pass their lives as the Indians of Terra Firma do, eating flesh, and several fruits, the product of their islands. Those who inhabit the barren or less fertile islands, eat fish of the sea, and shell-fish, as also potatoes; and some, who cannot have any wool, clothe themselves with the barks of trees. Some go stark naked, though their climate is mighty cold, and by custom do not feel the hardness of the weather overmuch.

Others have a strange way of clothing themselves, which is to gather a certain earth with roots about it, to give it a consistency; and others clothe themselves with feathers, as Brother Gregory of Leon reports in his map. They are all tall men, and in some places there are giants, as the Dutch relate, who say, they found skulls that would contain within them some of their heads; for they used to put them on like helmets: they found also dead men's bones of ten and eleven feet long, whose bodies, by consequence, must have been thirty feet high, which is a prodigious thing. Those whom they saw alive, were generally taller by the head and shoulders than the Dutch. This appears by the relation of General Schewten; and from that of George Spilberg we learn, that when they were in the straits of Magellan, they came to an island, which they called the island of Patagoons, or giants, because of some they saw there, and on the Terra del Fuego. Among the rest, they saw one who was upon a rock, to see the ships go by, and they say of him, that he was *immanis admodum, et horrendæ longitudinis*.

Likewise we know, from the fleet commanded by Don Fray Garcia, Jofre de Loaísa, a Knight of St. John's order, that at the cape of the Eleven Thousand Virgins they

found the footsteps of men of a large stature, and met two canoes of savages, whom, because of their strength and stature, they called giants; they came near the ships, and seemed to threaten them; but those of the ship endeavouring to follow them, they could not come up with them, for they rowed so swiftly, they seemed to fly. It is probable that these canoes were made of the ribs of whales, which are there in abundance: and they found one before with the sides and steerage of whale-bone.

In another voyage, made by Thomas Candish, an English gentleman, they found in a port, (in a very inaccessible place,) a company of Indians, very lusty men, who, notwithstanding the prodigious cold of that country, lived in the woods like Satyrs, and shewed so much strength, that they would throw stones of three or four pounds weight a great way. We read likewise in the relation of the voyage of Magellan, that as he wintered in the bay and river of St. John, there came to the ship six Indians, so tall, that the lowest of them was taller than the tallest Spaniard aboard; that having made a great kettle of the sweepings of the biscuit for them, enough for twenty men, those six eat it up entirely, without leaving a crumb of it. Magellan gave them a sort of coats of red wool, with which they were much pleased, never having seen any before; their ordinary wear being deer-skins. They learned from them, that in the summer they used to come down to the sea-side to live, but in the winter they withdrew more into the heart of the country. We know likewise by these same authors, that the number of the Indians that inhabit those coasts, is considerable, particularly in the port called the port of Shell-fish; where as soon as they landed, great numbers of Indians, with their wives and children, came to them, and exchanged with them great quantities of pearl, ready wrought in points, like diamonds, very artfully, for scissars, knives, and other baubles; as also for Spanish wine, which pleased them extremely; but they came no more, for they were frightened with seeing the Spaniards shoot some game.

The fleet of George Spilberg found also great numbers of inhabitants in the land, on the other side of the straight; and when the captains, called the Nodales, were, by the king's order, to view the straight of St. Vincent, they found, upon a point of land of that straight, great store of people. The same is said by the Saballas, and others who went from Peru to search the Terra del Fuego; and all those who have passed the straights, have constantly seen men and inhabitants on the shore in several places; and at one place some of Spilberg's men landing to pursue some birds of a very fine colour, which they saw on shore, had scarce begun to shoot them, but they were environed with Indians, who attacked them so furiously with clubs, that happy was he that could make his escape to the ship; and many of them were knocked on the head.

The Nodales likewise saw in the bay of St. Gregory great numbers of inhabitants, with whom the seamen drove a trade, by exchanging some Spanish trifles for gold. By all which it is apparent how well peopled all that coast and the islands are; yet we do not know what sort of people inhabit the fourscore islands discovered by Pedro Sarmiento, for nobody landed out of that fleet; but we know that the islanders of Mocha are a peaceable civil nation, several ships having touched there, and at Sancta Maria. As for the nation called the Chonos, they are a poor people, but good-natured, as has been seen by the Chilenians, in whom the Spaniards have found great docility, and a good understanding.

In the islands discovered by Francis Drake, in about five and fifty degrees, of which we have already made mention, they met with canoes of men and women stark naked, which is the more remarkable, because of the excessive cold of those parts, where there

there is a continual night, without any appearance of day, when the sun coming to the tropick of Cancer, makes our summer; on the contrary, when he draws near the tropick of Capricorn, there is continual day, without any shadow of night.

And now lately, in the year forty-three, the Dutch having sent a fleet under the command of Anthony Brun, which passed the straights with a design to settle at Valdivia, as they endeavoured; they sailed afterwards into seventy degrees, where they discovered an island, which they called Barnevelt, in which they saw the footsteps of men of large stature, and observed great smoaks: this place was so cold, that the Dutch could not endure the rigour of the weather, which was nothing but frost and snow, it being then June or July, which is the depth of their winter, and a perpetual night, without seeing the sun one hour in a day. It is a wonder how these islanders pass their time in so much cold and darkness, without any thing to cover their nakedness; for wanting commerce with Chile, or other parts in Europe, they have neither sheep nor goats, nor any thing that produces wool fit to make them garments. It must be owned, that men are quite other creatures than the nice imagination of some effeminate nations takes them to be; and human nature, by custom, accommodates itself to the place where it is bred, so that very often men will not leave that place for any other more full of conveniency. It is for this that these Indians show such an aversion to leave their country where they were born and bred; and though it be a miserable one, and those they go to more delicious, yet there is no sweetness in any one like that of their own country.

There is a report likewise, that in the straights of Magellan there are pigmies, but I know not upon what it is founded; for all the authors that relate the voyages made into those parts, speak always of giants, or men of a gigantick form, who exceed us in strength and stature; and it is said in one of these relations, that the ship's men, in a certain place, beginning to fight with these Indians, they pulled up great trees by the roots, to use them as a retrenchment, as we may see in a picture in Theodore and Jean de Bry; but I cannot imagine how this report of pigmies was invented; and it seems to me a jest or irony, or, perhaps, among these giants there are some dwarfs.

That which was seen by the vice-admiral of George Spilberg's fleet, was a body of about two feet and a half high, which was buried with another of an ordinary stature in a grave of very little depth, and covered after the Indian way, with a pyramid of stones, in an island called the Great Island, about the second mouth of the straights; and from hence, perhaps, or from having seen some of that littleness alive, this report of pigmies took its rise.

This is all the account I can give of the inhabitants of the straights, and islands about it. Time will, perhaps, enable us to be more particular, when by commerce we are better acquainted with them; and then, without doubt, there will not be wanting authors to write about them.

#### CHAP. VII. — *Of the Indians of Cuyo, who are on the other Side of the Cordillera, to the East of Chile.*

THE Indians of the province of Cuyo, though in many things they are like the inhabitants of Chile, yet in many others they are not so. For first, they are not so white, but more copper-coloured, which may be attributed to the great heat they endure in summer. Secondly, they are not so cleanly, nor do not build such neat houses to live in: but their habitations are wretched; nay some, who live in the marshes,  
make

make themselves holes in the sand, into which they go like wild beasts. Thirdly, they are not so laborious to cultivate their land, and so have not such variety of product as those of Chile. Fourthly, they are not so brave nor warlike as the Indians of Chile: their language is likewise different, and so different, that I do not know one word of the one that is in the other; but yet the language of Chile being so universal, that it is the same all over kingdom, to the foot of the Cordillera; those of Cuyo learned it too, and that very perfectly; but I never observed that a Chile Indian spoke the language of Cuyo, which shews the advantage that the language of Chile has over the other.

In return of these advantages which the Chilenians have, those at Cuyo have some over them. And the first is in the stature, which is taller, but not so strong and well set as the Chilenians, but rather raw-boned, without flesh. I do not remember I ever saw a fat Cuyian among so many as I have seen. They are likewise better workmen in some things which require patience and length of time, such as basket-work of several figures, all of straw; and yet so close worked, that they will hold water; for which reason they make their drinking vessels of them; and as they cannot break by a fall upon the ground, they are very lasting, and the curiosities of this kind, which they make, very much valued for their work and colours.

Likewise they prepare several furs of animals, which they hunt; and they are very soft and warm for winter: they hunt and catch ostriches likewise, and make many works of their feathers, with which they adorn themselves on their festivals, mingled with the feathers of other birds. They likewise hunt the wild goats and deer, and are the masters of all the Bezoar-stones, which they sell to the Spaniards so dear, that any one who should buy them to get by them, would make but a small profit in Europe.

These Cuyians are also more hairy, and have more beard than the Chilenians, though they pull their hair as the others do, but with more trouble; and they never look so smooth as those of Chile. They are all well-shaped, and nimble, and have a good air: they have also good understandings. The women are tall and slender, and I do not know that I ever saw taller: they paint their faces green, which is so well settled in their skin, that there is no getting it out: most commonly they paint only their nostrils, some their whole faces, and the men their beards and lips. Their habit is decent in both sexes; the women let their hair grow as long as they can, but the men only below their ears. In all other things are like the Chilenians.

They are very nimble, and good travellers, without tiring. I have seen them run up the steepest and straightest hills of the great Cordillera, like so many goats; and this the women will do as well as the men; nay, the little children too. The women will run with their children in a cradle fastened to their backs by a strap that comes over their forehead; and with all this weight they follow their husbands with so much ease and agility, that it is wonderful.

For a proof of the admirable disposition of these people, in walking and running, a corrigidor and captain-general of that province told me a story about their hunting their venison, which is very singular; he told me, that as soon as they find their game out, they draw near them, and follow them upon an half trot, keeping them still in sight, without leaving them so much as to eat; and in a day or two they begin to tire them so as they can come up with them, and kill them, and return home loaded with them, where they feast upon them, with their families, till they have made an end: for these Indians are such gluttons naturally, that a few of them will eat up a calf, or a young heifer in a meeting: but they are as good at fasting, when they have nothing to eat; for they will pass several days with a little maize and some roots

roots, which grow wild : they are also very dexterous archers, and often kill with their arrows the game they see.

I shall not omit a particular favour bestowed on these Indians by God Almighty, which is a singular instinct of tracing and following any lost thing. Of which I shall give two examples which happened in the city of St. Jago.

Our college had a cart belonging to it, which stood at the gate of a garden, to which our Seminarists did use to go to refresh themselves ; it was stole one night, and being missed in the morning by one of our lay-brothers, he immediately went to find out a Guarpe (for this is the name they give those finding Indians) ; he presently fell upon the scent or piste, and followed it, taking with him the lay-brother, till he came to a river, where it failed him : but he lost not the hopes of finding it ; he crossed the river, and recrossed it again, once and twice, by so many different fords, (the man that stole it, as he since confessed, had crossed so many times to break the piste to the follower.) After this he went four leagues outright, and there he found it, when the man that had it, believed himself most safe from being discovered.

Another time, a certain person having lost a parcel of oranges, he employed a Guarpe, who having led him through many streets and turnings, brought him at last to a house ; where finding the door shut, he bid him knock, and go in, For there, said he, are thy oranges. He did so, and found them. There are every day experiments of this kind made by them to admiration : they are likewise stout workers, very strong and lasting in labour.

Next to these Indians of Cuyo, are the Indians Pampas, called so because they inhabit those vast plains, which are extended for about four hundred leagues to the east, and reach to the North-Sea. Those of the point of Los Venados are the nearest the kingdom of Chile, and are much of the same kind. These Pampas have no houses, in which they differ from all mankind ; for the first thing men generally do, is to cover themselves from the inclemency of the air : and this is the thing which these Pampas do the least care for ; perhaps they are of opinion, that it is an injury to the to the Author of mankind, to look for more shelter than he afforded men at first, which is the earth, with the heavens for vault or cover ; and that to defend themselves from rain, it was enough to make any little cover, which might be easily taken away, and set up in another place.

This they observe ; and look upon it as a sort of prison or captivity, to be tied to one place : for this reason they will neither have house, nor gardens, nor plantations, or possessions, which are like chains to hinder their removal to other places ; for they judge that the greatest of all earthly felicities is to have the absolute, entire, and independent use of their own free will ; to live to-day in one place, to-morrow in another. Sometimes, say they, I have a mind to enjoy the freshness of the river-side, and being weary of that I pass to another. Otherwhile I have a mind to live in woods and solitudes ; and when I am weary of their shades, I go to the open air of plains and meadows. In one place I hunt, in another I fish ; here I enjoy the fruits of one territory ; and when they fail, I seek out another, where they are beginning to ripen. In short, I go where I will, without leaving behind me any thing I regret or desire, which uses to be the torment of those who are fixed. I fear no ill news, for I forsake nothing I can lose ; and with the company of my wife and children, which I always have, I want for nothing.

This is the account that these people give of themselves ; and thus they pass life without cares ; here to-day, to-morrow in another place ; making in an instant, with four little posts, a hut covered with boughs, or some hide of a beast. Their incomes

are their bows and arrows, with which they provide them with flesh, with which they drink water; only sometimes they make their drink, called Chica, of fruits of the trees, as they do in Chile. Their clothes are some leaves for decency, and a skin, which is like a cloak to cover them in other parts. They make holes in their lips, and put some glass or brass pendants in them, and sometimes silver ones. The men let their hair grow to their shoulders, and the women as long as it will. There seems to be one thing wanting to this nation, which all other Indian nations have, which is the bread they make of maize, or wheat, or some of rice: but yet they do not want a supply of this kind; for because they have not these grains, they make bread of the cods of a tree, which we in Spain call Algaroba; and because that does not last long, they have invented a strange sort of bread made of locusts, (nay, I have heard of Mosquitos;) but the locusts used to be in such vast quantities in those great plains called the Pampas, that as I travelled over them, I often saw the sun intercepted, and the air darkened with flights of them.

The Indians observe where they light to rest; and those plains being here and there full of thickets, they rest in them, and chuse the highest for shelter. This the Indians know; and approaching softly in the night, they set fire to the thicket, which, with the high winds that reign in those plains, is soon reduced to ashes, and the locusts with them. Of these they make great heaps; and as they are ready roasted, they have nothing more to do, but to grind them to powder; of the flour of which they make a sort of bread, which maintains them. To the same end they use an herb called Cibil, which, either by pact with the devil, or by natural virtue, affords them a sustenance for several days, only by keeping it in their mouths, where it makes a white foam, which appears upon their lips: it is a very disagreeable sight, and made me very sick to see it.

Though these people are not so warlike as the Chile Indians, yet they are courageous, and have shewed it upon several occasions. They are very dexterous at their bows and arrows, with which they make incredible shots. But besides these, they have a very extraordinary sort of a weapon of a new kind, which is made of two balls, the one bigger, and is a stone perfectly well rounded, about the bigness of an ordinary orange; the other is of a bladder or hard leather, which they fill with some matter of less weight than the stone: these two balls are tied strongly to each end of a strong whpcord, which they twist off a bull's pizzle: the Indian standing on a high ground, takes the lesser ball in his hand, and lets the other fly, holding it like a sling over his head to take aim, and hit his adversary with the heavy ball, which they direct to the head, or legs of their enemy; and thus they entangle him so, as to bring him to the ground, and then the Indian leaps from the height where he was, and without giving him time to disembarrafs himself, they kill him; and this instrument is so powerful in their hands, that it not only brings a man to the ground, but a horse or a wild bull, which are very frequent in those parts, since the coming of the Spaniards among them.

At this time they have no wars with any; for though they do not own a subjection, yet they carry themselves to the Spaniards very friendly; and the reason is, because they see their towns so populous and strong, that it would be in vain for them to stir, or make any attempt against them: they have the liberty of going in or out as they please; and when they have taken a kindness for a Spaniard, there will come a troop of them in harvest time to help him to get it in, and when it is over, they return to their own way of living: but there are others who come in troops to the highway, and if the Spaniards are not well armed, attack them in their waggons; for

which reason they seldom set out but a great many together, and well provided for an encounter; but most commonly they are well pleased with some little present, which they ask very boldly, as if they were masters of all the goods in the waggon: they generally are content with a little biscuit or wine; but if the travellers are too niggardly, they are in danger all the way, and must owe their safety to their fire-arms.

## BOOK IV.

OF THE FIRST ENTRANCE OF THE SPANIARDS INTO THE KINGDOM OF CHILE.

### CHAP. I. — *The Introduction to this Book.*

HAVING hitherto treated of those three parts, into which at first we divided the kingdom of Chile; of its soil and climate; of its temperature and properties; of its inhabitants, and their antiquity, nobility, and customs; the order of this history requires we should now treat of the entrance of the Spaniards into their country; since by that it has been changed much for the better in many things: and although what we have already mentioned about the flocks, fruit, bread, wine, oil, &c. of which they had no idea, before the Spaniards came among them; yet this is nothing in comparison with the advantages they received by the light of the gospel, which by the means of the same Spaniards, was and is communicated to them. Upon this consideration, we may well excuse some military excesses of covetousness in some of the first discoverers and their soldiers, who as such, and men who are bred in disorder and confusion, and used to embroil their hands in blood where they find resistance, had less regard to the strict rules of justice towards the Indians. But this was against all the orders of Their Catholic Majesties, who from the beginning recommended most strictly the preservation of the privileges of those poor people, charging all their governors, captains, conquerors, and royal ministers, that they should always have before their eyes, in the conquest of this new world, not so much the dilatation of their royal power and monarchy, as the propagation of the gospel, and the kind usage of the Indians, their conversion being the principal motive of the undertaking, as we shall see in its proper place.

But how is it possible, morally speaking, that human actions, though never so well designed upon high motives, should not have a mixture of the inconveniences which passion, not overcome by reason, produces? and so it is no wonder, that in the beginning of those discoveries some disorders should happen, though they never were so exorbitant as some authors make them; and particularly in Chile they were much less, because the inhabitants of those parts made the Spaniards feel their valour at their very first entrance, where they found their progress opposed with greater vigour than they imagined.

But since this kingdom is one of the considerable parts of America, it will be necessary first to say something of the discovery of the new world; for this being the remotest

remotest part of it towards the south, it was necessary to pass all the rest before it could be discovered; and therefore, though I have not a design to make any relation but of the kingdom of Chile, I shall nevertheless touch upon the other discoveries, and follow the steps of the conquerors in order, as the histories of them do relate; so the subject of this book will be better understood, by opening the manner of the finding them, and the order of time in which this progress was made; and so place each kingdom according to its antiquity.

CHAP. II. — *Of America in general, and what light may be found of the it among antient Philosophers.*

AMERICA, called otherwise the New World, because of its late discovery, is now as well known as it was formerly hid for so many passed ages, not only to the vulgar, but to those piercing wits among the pagans, Aristotle, Parmenides, Pliny; and among the christian philosophers, to St. Austin, Lactantius, and others, who judged all that climate to be inhabitable that lay between the tropics, founding their opinion upon a point of their philosophy, which was, that the preservation of the animal demanded by its temper the just proportion of the first four qualities, which they supposed could not be found under the torrid zone; for so they called it, because of the force of the sun upon it, it being all the year almost perpendicular to it; and having observed its effects on this side the tropics, how it dries the earth in summer, consumes the fountains, thinking that if it did not withdraw to the other tropic, it would have entirely fired the earth, though refreshed by the nights, it is no wonder if they were persuaded that where its beams were continual, there could be no habitation for man.

But experience, which is the touch-stone of all philosophical discourses, has discovered that not only there is a plain passage, though troublesome, from one pole to the other, but also that those regions contained under the Zodiac have been, and are inhabited by innumerable nations; and that there are even under the equinoctial line, some places, as that of Quito, so temperate and healthy, that they are manifestly preferable to several in the temperate zone. This new world has, by common consent, been called America unjustly enough, as Herrera complains in the first book of his fifth decade, by the crafty usurpation of this discovery appropriated to Americo Vesputio, instead of Columbus, who by this means is deprived of his true glory.

It is not easy to make out what knowledge the antients have had of this new world: Marinco Siculo pretends, in his Spanish Chronicles, that the Romans had known it, and made some conquests in it; and his foundation is, that in one of the gold mines of America, there was found a medal or antient coin, with the figure of Augustus Cæsar; which, he says, was sent to the pope by Joannes Rufo, archbishop of Cozenza; but this is refuted, as ridiculous, by Pedro Bercio in his geography; and it is not very probable, that that coin alone, and no other, should have been found in all this length of time, since the mines are working in the West-Indies. But, besides, if the Romans had been once in possession of those parts, it would not have been easy to have lost all commerce with them, considering the great riches that communication produces; for the nations would have called in one another, as we see they have done since the discovery made by Their Catholic Majesties, and their possessing of those parts, to which there goes every year so much people from Europe.

the Roman coin, it is probable that some who passed from Europe with the first conquerors of the Indies, and out of a humour of spreading novelties, (which though

though little worth, are generally applauded by the vulgar,) feigned he had found it in the mines; or it might fall from him, and be found by another, who carried it as a rarity to the bishop, who is said to have sent it to the pope. I am not ignorant that there are many arguments and conjectures, and those not contemptible, of some knowledge that the ancients had of this so principal a part of our globe, which are related by Abraham Ortelius, Goropius, father Acofta of our company, in his first book of the History of the Indies, chap. 11, 12, and 13. Thomas Bosius, book XX. chap. 3. Malvenda, Friar Gregory Garcia, in the first book of the Origin of the Indians, taking their hints from Plato, Seneca, Lucian, Arrian, Clemens Romanus, Origen, St. Jerome, and others, who seem to have had some knowledge of this new world. There may be seen in Father Pineda, of our society, in the fourth book about Solomon's Court, chap. 10. the words of Abraham Ortelius, which make very much to this purpose.

CHAP. III. — *What light may be had from Scripture about this new region.*

THERE is another question which seems to be better founded than the first; and that is, what light may be had from scripture about these remote regions? because there are many authors, who from these words of the second of Chronicles, chap. iv. "The servants of Hiram brought, with the servants of Solomon, gold from Ophir," infer, that the scripture here speaks of the West-Indies, and interpret Ophir to be Peru, or all America; and as the most famous Christopher Columbus was the first who discovered it, so he seems to have been the first that used that expression; for they say, that when he was in the island of Hispaniola, he often said, that at last he was come to the desired land of Ophir, as is related by Peter Martyr, in his first book of the Decade of the Ocean. But he who first set out this opinion in form, was Francis Vatable, who upon the third book of Kings, in the ninth chapter, and so on, makes Ophir to be the island of Hispaniola, and the continents of Peru and Mexico. He was seconded in his opinion by Postel, Goropius, Arias Montano, Antonio Possevin, Rodrigo Yepes, Bosius, Manuel de Sa, and other authors, reported by Pineda, in his treatise *De rebus Solomonis*; which makes Father Martin del Rio, of the company of Jesus, say, that this opinion is not without good grounds; but he who defends it most vigorously, is Father Gregory Garcia, of the order of St. Dominick, in his book *De Indorum Occidentalium Origine*, where he strives mightily to clear this opinion from all objections and opposition.

The things said by these authors are not of small weight, though those who would make an inference from the word Peru's having a nearness to Pharvim, which is used by the Septuagint in 2 Chron. iii. where, speaking of the gold with which Solomon adorned his temple, they say, that it was of gold of Pharvim, which in the vulgate is translated *Aurum probatissimum*, or most pure gold, have against them a powerful adversary, to wit, Garcilasso de la Vega, who affirms, that the name Peru is not the name of the land, but that the Spaniards, endeavouring to inform themselves of the country, took an Indian, whose name was Beru; and that asking him what country they were in, and he imagining they asked him his name, he answered Beru; and the Spaniards thought he had said Peru, and that that was the name of the country, which ever after was called so. That which, in my opinion, confirms the belief of Ophir, is, that which Solomon says of himself in the book of Wisdom, that he "knew the disposition of the earth;" with which it seems that ignorance was incompatible;

incompatible; and that he could not but be informed of that great and principal part of the world; so that we may conclude he knew how to send his fleets thither, and bring home the riches of those parts; and this may be more probable, if we consider the great desire he had of gathering together all the precious things from several parts of the earth, and the purest gold, for the ornament of the temple and house of God; for the gold of Valdivia and Carabay being the purest in the world, and the precious woods of odours that are in those kingdoms, and Paraguay and Brasil, the finest, it appears hard he should not use all diligence to have them, they making so much to his end, which was to gather treasure and precious things.

That he could do it, there seems no reason to doubt, since we know he had a great and powerful fleet; and if this fleet spent always three years from the time of its setting out in the Red-Sea, to the time of its return, as the interpreters of the scripture all say, in what could they spend so much time, but in going to the utmost bounds of the east and west? and, it is possible, went round the world, as the ship Victory did since, in the same time; in which the great Captain Magellan discovered and passed the straights of his name; and since we know that the fleets of the Catholic kings do, in our days, penetrate to the utmost parts of the east and west in less than a year's time, why could not the same be done by those of so powerful and so wise a king as Solomon, who may be supposed to have understood himself, and instructed his captains and pilots in the art of navigation? neither is it improbable, but he might know the use of the loadstone, and the sea-compass, as some authors do affirm he did. This is yet more confirmed by what we have observed already about the knowledge and conjectures which the antients had of this new world, of which he likewise could not be ignorant, but rather have a more particular insight into them, being himself so perfect in the sciences of cosmography and geography, as well as hydrography: all which he had by infusion from God Almighty, that he might see into the errors of those who believed there were no antipodes, nor that the torrid zone could be inhabited, denying the roundness of the earth, and other such mistakes.

Lastly, we know, that his fleets came to Syria, Phœnicia, Africa, and Europa; and to come to those coasts, it is certain, that if they set out at the Red-Sea, it was necessary for them to sail southward to double the cape of Good Hope, and then north, and pass the equinoctial line a second time, as the Portuguese do now in their voyages from India to Portugal. This being supposed, and that Solomon had the knowledge of America, it is probable he was not unacquainted with the communication of the North and South-Seas, by the straights of Magellan and St. Vincent; for Solomon being so powerful, both by sea and land; and so well instructed in all things, it is probable he caused those shores to be searched, to find the communication of both seas, as it was since done by men much inferior to him in every thing, which were Magellan, and Jacob le Maire; or, it might be discovered by some ships driven by storms into those parts, as some say it befel the first discoverers of America.

This once supposed, those who understand any thing of navigation, and the art of the sea, cannot but know how much more easily a fleet, being placed at the Cape of Good Hope in thirty-six, may sail south to the fifty-fourth degree, where the straights of Magellan lie, than to sail to the north above seventy-two degrees, which it must do from the Cape to Europe: From whence may be inferred what I say, that if it was true that his fleet came to Africa and Europe, and entered the Mediterranean sea, it was much easier to go to Chile and Peru; for from the straights it might run before the wind all along that coast; and having taken in the gold, precious woods, silver, and other commodities, it might return by the same straights, as Pedro Sarmiento, and

and others, have done to the North-Sea, and so to the Cape of Good Hope and the Red-Sea; or, the fleet being in the South-Sea, might sail west to the Philippine islands; and from thence coasting along those parts we call the East-Indies, it might take in all the eastern commodities; and so having gone round the world, return laden with all the riches of east and west, with pearls, diamonds, rubies, and other fine stones, as also musk, amber, ivory, and other valuable eastern commodities; and from the west, with gold, silver, odoriferous woods, pearls, emeralds, fine dyes, rich and fine wools, amber, and other riches, which were wanting to make up the opulency of Solomon.

Neither ought this to be thought impracticable, since it is made out already in these books, how easy the navigation would be from Chile to the Philippine islands in two or three months: the conveniences of which navigation have been set out in the fourth chapter of the second book; and we do know how the ship Victory did return that way, and so have many others since; by all which the possibility of Solomon's navigation is made out, and that within the compass of the three years, in which they used to return to their port in the Red-Sea; and if it did not do this, it can hardly be imagined how it could employ such a space of time.

For these, and many more reasons of this nature, our most learned Pineda retracts the contrary opinion, which he had published in his commentaries on Job; because, when he writ them, he had not so well examined the grounds of the last opinion, nor weighed all the authority and strength of conjectures that attend it; and, indeed, so far every prudent man would go, as not to despise and condemn an opinion of which he believed the contrary, if it were maintained with probability, and by persons worthy to be hearkened to. Though, to say truth, if I must speak what I think, that one reason which I gave above against the Romans having had knowledge of those parts, (which is, that it appears incredible, that having once made the discovery, and enjoyed those mines, not only the communication with them, but the very memory of them should be lost,) seems, in my opinion, to be as strong an argument against Solomon's fleet; for if that did once overcome all the difficulties of that navigation, what cause could interrupt that commerce in such a manner, as that the total remembrance of it should be abolished? It is true, that as to the Jews, they were a people who did not care to live in foreign parts, nor settle among other nations, nor inhabit the sea-coasts; for God Almighty was unwilling, that, by the communication with the Gentiles, they should contract any of their customs; and therefore we do not know, that of all the race of their kings, any more than three went about any such thing, which were Solomon who compassed it, and Josaphat and Ochofias, whose undertakings had no success. By which it may be inferred, that when Solomon died, and the temple was finished, this navigation was neglected, till at last it was quite forgot; besides, that it appears from the Chronicles, and other places of scripture, that in those times silver and gold were but little valued, the covetousness of mankind not being arrived to the height it is at now-a-days: they did not think it worth leaving their houses to endure labour in the search of them, and run all those hazards which the voyagers to those parts do undergo. This therefore might take off the edge and desire which we see in the Europeans, of continuing those voyages; neither would they desire to settle in those parts; or if they did, the memory of them might be lost. See Padre Pineda, particularly in the fifth section of the sixteenth chapter, where he answers the arguments of the negative opinion; to which he gives very handsome solutions; and in particular, to those who say, that Solomon's fleet could bring nothing but gold and silver, as if this were nothing, or like ballast; and that this were not motive enough for him to send his fleets, for a thing of which it appears he made such use, both for the temple and his own palaces; so that it does not

seem possible he could have it all from the east, but must have had recourse to the west, where there was such a mass of it, as is made out by what we have said of the mines of Chile, and those of the Inga, with those trees, fruits, and plants of massy gold, and statues of the same metal in his gardens; besides what they call Guafcas, where to this day they keep concealed a vast store of those riches gathered together for the liberty of the Inga, when the Spaniards had him prisoner; all which may be seen in what has been said already in several chapters.

CHAP. IV. — *Of the Discovery of America; and by what Means it was performed.*

AMONG the hidden and wonderful secrets of nature, we may reckon the singular virtue of the loadstone, which has produced such wonderful effects, as they seem more the object of our eyes than of our faith, as men; for who, if they did not see it, could believe the experiments made every day, which surpass all imagination? See the curious and elaborate treatise of Father Athanasius Kirker, of our company, *De arte magnetica*; for there the most aspiring mind after curiosities will find all he can wish about this matter, as well what is ancient, as what is modern, the whole treated with so much erudition and clearness, that the study of it is not less delightful than profitable. The same subject is also treated of excellently by Father Nicholas Cabeo, of our company, in his book of *Magnetical Philosophy*.

Among all the virtues of this rare stone, I think that its quality of taking up iron is not so admirable as that which it has had of drawing gold and silver to Europe from India; the mass of which has been so great, that some curious persons having made a calculation in this matter, which they understood very well, and reckoning the millions brought by the galleons and flotas, from the discovery of the Indies to their time; and having also computed the distance between Europe and those parts, have found that there might have been made, from the one to the other, of bars of silver, a bridge of a yard and a half wide; so that if all that metal could be found now-a-days in any one place, it would make a mountain like that of Potosi, from which the greatest quantity has been fetched; and for that reason it appears hollow, and bored through in so many places. We may therefore say of the loadstone, that gold has given it a virtue like that of faith, to transport mountains, not only from one place to another, but from one world to another, through those immense seas which separate them.

Who the first man was that applied this virtue to facilitate navigation, it is hard to prove by authors; for though we know that this stone was known to the Jews, and to the Egyptians, yet who first made use of the sea-needle and compass, is very hard to find out. Some say it came from China to Europe: others, that it was found by the inhabitants of the Cape of Good Hope; and that Vasco de Gama, met with some of their vessels, when he made the discovery of the Cape; who used this instrument: others give the glory of it to the Spaniards and Portuguese; others to a man of the kingdom of Naples, called John Goyas, of the city of Amalfi, who was rather the man that perfected this invention, being himself an experienced seamen. But let every one have his opinion, it is not my business to decide; I only say, that to this admirable virtue of the loadstone we owe the discovery of America: for though some authors say, that Solomon's fleet sailed by the observation of the stars, the winds, the flight of birds, and other signs, with which they supplied the want of this useful invention, not then known according to the common opinion, (though the contrary is not altogether improbable,) yet it must

be owned that the use of this 'sea-needle' has been the thing that has facilitated the navigation, so as the first discoverers, trusting to this, durst venture into vast seas, and pass the gulph which leads to that remote and unknown world, so as to land in it; which was a performance worthy of immortal memory to the man who undertook and executed it.

This man was the most famous Captain Don Christopher Columbus, a Genoese, whom the Spaniards in their language call Colon, who, though he were not, as he was, nobly descended, might have given by himself nobility and fame to his descendants, and to his noble and illustrious country; for if this commonwealth had had only this son, it might draw fame enough from him alone, since his generous and bold mind was capable of overcoming all the difficulties which he met with in the project and execution of this enterprize, the more to be esteemed by the great advantages procured by it to both worlds; to this, by that vast increase of riches, of which a great deal is consecrated upon the altars in churches, besides what is employed in the furniture of princes and great men: and to the other world, the benefit of the light of the gospel, by which it is so much more polished and meliorated in all senses.

Neither does that which Garcilasso de la Vega, and others, do relate, any ways affect the glory of this great man, when they say, that he undertook this design upon the knowledge communicated to him by a man whom he entertained, and who died in his house as his guest; for we must own that his chief praise does not come from what he knew of this new world before he undertook to find and conquer it, but from his generous mind and constancy in pursuing his enterprize; and this is all his own, which puts justly the laurels upon his head, and makes his memory immortal in spite of time and envy, though one would think no body should have any for the common benefactor of two worlds. That which these authors relate about this history is, that a pilot, an inhabitant and native of the town of Guelva, in the county of Niebla, in Andalusia, called Alonso Sanches de Hualva, or as others say, Buxula, used to trade with a small vessel to the Canaries; and that one time, in his return to Spain, he met with a mighty strong Levant, which was so powerful, that in twenty days he found himself in one of the islands of the West Indies, one of those which we call the islands of Barlovento, or the Windward Islands, and it is judged it was Hispaniola; from whence, fearing to perish for want of provision, he returned to the island of Madeira, having endured so much, that almost all his company died, and himself came in such a condition, that though Columbus, who loved sea-faring men, and for that reason had chosen that island to live in, received him into his house, and took great care of him, yet he died; but before he died, being willing to make some return for the kindness received, he called Columbus to him, and left him, as an inheritance, the journal he had made, with the rhumbs of wind both going and coming, and all other his observations in the voyage, and about the place where he landed.

This is thus related by Garcilasso de la Vega, and Father Joseph d'Acosta, who says, he does not know the name of this pilot who left this legacy to Columbus: and this he attributes to the particular providence of God, who would not have the honour of this discovery be owing to any human industry, but immediately and intirely to the Divine Majesty, to whose disposition we ought to attribute so much as appears contingent and casual in this ship's miscarriage, from its course, and all the other accidents attending that storm, till the pilot was brought to die in the house of him whom God had chosen for a second cause and chief instrument of this enterprize; who being of himself a great philosopher and cosmographer, compared these notions which he had from

from his dying guest, with his own speculations which he had long had upon the same subject; and this made him resolve to undertake what he afterwards accomplished. In order to this he began to consider of those who were likeliest to assist him; and first of all he offered it to his own country, who took it for a dream; after this, to the Kings of Portugal, France, and England: and at last he addressed this rich offer to Their Catholick Majesties, for whom it was designed from the beginning, by Him who had resolved in his providence to amplify their monarchy by the addition of so many rich and powerful kingdoms, as they have acquired in this new world.

Ferdinand and Isabella, who are worthy of immortal glory, having examined the grounds Columbus went upon, and the honour that might be done to the cross of Christ, and to the preaching of his gospel, if this enterprize should take effect, having seriously considered of it for eight years together, they commanded all necessary provisions to be made, without sparing any charge, or minding the contingency of a design so new, so difficult, and so much without example.

#### CHAP. V. — *Don Christopher Columbus sails from Spain in Search of the New World.*

IN the year of the birth of our Saviour 1492, upon the third of August, about half an hour before sun-rise, (the happiest day that ever shined upon our antipodes, as being the beginning of their greatest felicities,) Don Christopher Columbus, the most famous Genoese that ever was, sailed from Spain, with the title which he had received from Ferdinand and Isabella, of admiral of the Seas of all those countries he should discover and conquer; so leaving behind him the famous Herculean straits, as disdain their *Non-plus-ultra*, and laughing at their pillars, he launched into the vast ocean, and begun his navigation with no less confidence than admiration of those who saw him leave the shore and steer a course never before attempted, by new rhumbs of winds. Having touched at the island of Gran Canaria, he again sailed from thence the first of September, with ninety in company and provisions for a year. After some days of navigation he began to find himself near the tropick of Cancer, and under the torrid zone; whereupon his men who had been bred in the temperate climates of Europe, being impatient of heats, which they never before had experienced, and wearied with seeing nothing but a vast ocean without land, began to enter into distrust of discovering any. At first they murmured only between their teeth; but at last, speaking out boldly, they came to their Captain Columbus, and endeavoured by all means to dissuade him from pursuing his discovery, as vain and without hopes of success; and that it would be much better to return back to Spain; but he with a generous mind being deaf to all their persuasions, pursued his voyage with constancy. His men perceiving still how he went further from Spain, and that they had almost worn out their eyes with looking out from the top-mast head of the ship, without finding any appearance of land, renewed their instances and reasons; and that the more earnestly, by how much they perceived every day the consumption of their water and provisions; calling now that temerity, which before they said might be constancy: for they alledged that the time was increased, their provisions lessened, the winds scarce, and calms to be feared; no land in view, its distance not to be known nor guessed at; that the danger was certain, and no avoiding to perish, if they staid any longer; therefore, said they, let us secure our lives, except we intend to be a fable and laughing-stock to all mankind, and looked upon as our own murderers.

To say truth, it cannot be denied but this was an urgent danger, and greater perhaps than can be imagined by those who never were in the like trials; for when no less than life is at stake, all dangers appear great, and particularly at sea: besides, these allegations were of themselves of great consideration, and capable of shaking the greatest constancy and valour; yet the courage of the great Columbus was such, and so singular his prudence, that sometimes dissembling, and sometimes taking no notice of what he heard, but talking to this man and the other in private, and then comforting them all up in general, and giving them some account of his well-grounded speculations, he so fed them with hopes and expectations, (he himself shewing no distrust of his success,) that he brought at last his project to a happy issue. They were following their voyage thus, through all the inconveniencies of heat, ready to stifle them, when on a sudden a voice was heard crying, Land, Land: they all flew to the prow and sides of the ship, and fixed their eyes on the horizon like so many Argus's, to find out the land which seemed to appear like a cloud upon the sea. The desire of getting to it made some doubt, if it were land or clouds; but others were more confident: some assure it to be low land; others think they see rocks, and a large extended shore; and all was but guess, occasioned by the great distance they were at sea from any land; for in truth it was not land but clouds. And this was an invention of Columbus, their admiral, who seeing them almost ready to mutiny, made use of this artifice to prevent the ill effects of their despair, causing this voice to be heard to give them a short joy, and amuse them.

This succeeded well for that time: he steered his course towards this pretended land till night; and when they were asleep he set his prow to the west, in search of the true land: but in the morning when it was day, seeing those clouds, which they took for land, vanished as it often happens in long navigations, they began to afflict themselves anew, and remonstrate to the admiral boldly to his face, which I do not wonder at; for besides the danger of perishing with hunger, they found themselves in a climate so scorching and fiery, than in the third voyage that the admiral made, they being becalmed eight days, about the same place, were afraid the sun would have set fire to their ships; for all his casks flew under decks, the hoops smoaking as if they had been set on fire, and the wheat was all in a ferment; and the salt flesh was, as it were, boiled again, and stunk so, that, to avoid infection, they were forced to throw it overboard.

The admiral was thus pursuing his voyage, in which patience was his most necessary habit, to endure the terrible persecution of his own people; when on the 11th day of October of the same year, it pleased God to crown all his invincible sufferings, and the confidence he had in him, first, by manifest signs of land, which in such occasions do generally put a stop to all complaints and afflictions, and are the beginning of joy and content, which is followed with forgetting all past sufferings. The first thing they saw was the bough of a tree new cut, with its fruit on it, which though a kind of thorn, was a branch of olive to the inhabitants of this new ark; another had seen green fish, and some pieces of wood floating; all which were clear marks of land not far off, as to the navigators from India are the quantity of sea weeds which meet them about ten leagues from the coast of Spain. The joys which sailors and passengers shew generally at the signs of land, the capers they cut, and embraces they make each other, with their congratulations to the pilot, their thanks to heaven, nay, the tears they shed, and devout prayers they make to God and the Virgin Mary, in acknowledgment of their protection; all these are

not so much matter for my pen, as for fight and sense. All this happened to the admiral's company, which not only forgot their sufferings, and the hatred they bore to the author of them, but they run and threw themselves at his feet, as admiring and congratulating his constancy, and begging his pardon for so many hard thoughts, and as hard words, they had entertained, and let fly against him : he received them all with embraces and marks of benignity, assuring them that by the end of that day they should be within sight of land, and having said this, he went upon the highest part of the ship's stern, as being desirous to be the first, that should give them the good news of discovering land.

There was a rent of ten thousand Maravedies a year for the first discoverer, which made them all look out with great attention ; some on one side, and some on the other side of the ship, fixing their eyes where they thought it was most probable to find land ; but it was about two hours before midnight, when Admiral Columbus discovered a light, and calling to two officers, shewed them ; and presently he perceived that the light changed place, for it was a light carried from one house to another, as was known afterwards when they landed : they sailed on towards that light, and about two hours after midnight they discovered land, which was at the same time made by the other ships in company, whereupon there were many claims for the Albricias ; but at last they agreed that the Albricias belonged to the admiral, because he first discovered the light : this was confirmed by Ferdinand and Isabella, King and Queen of Spain, and settled upon the shambles of Seville, as the best fund for the admiral.

Herrera, the chronologist, makes his reflections upon this light, and moralizes upon it, that it signified the spiritual light, which those nations wanted, and which was now brought to them from Europe by these discoverers ; as a proof likewise of the piety of the catholic Kings, who having made war upon the Moors for three hundred and twenty years, had hardly finished it ; but they put their shoulders to this new conquest, to spread by their means the glory of the gospel, and make the voice of it to be heard to the utmost limits of the earth, making out by this manifest proof, how firm supports they were to the faith, since they were constantly employed in propagating of it. Thus far Herrera : to which I may add, that the light Columbus saw in the middle of the night, was the tacit working of reason, which being buried in profound errors, did yet throw out some sparks from under those ashes, and cry to heaven for the enlivening spirit to deliver it, and by the means of Christ revive it, so as to enlighten that gentilism, so long overwhelmed in darkness, and for so many ages past buried, as it were, in the shadow of death.

Thus it was ; and as soon as day broke they landed : the admiral carried with him the royal standard spread, the other captains having in theirs the banners of this conquest, which were prepared, and had in them a green cross crowned, and round about the names of Ferdinando and Isabella, to signify the hopes that those princes had entertained to make subject, and lay at the feet of the crucified Jesus, the crowns and sceptres of those powerful monarchs of that new world ; they themselves having first submitted their own, that there might be no crown, command, nor lordship, but that of the exaltation of the cross.

To this end, as soon as the admiral landed, kneeling down with all his company, he kissed it once, and twice ; and lifting up his eyes to heaven, all in tears, he adored our Lord God of all things, who had brought him thither, thanking him for his favour, and doing homage to him in the name of those people, who were to be brought to his knowledge ; in sign of all which, and the possession he then took, he called that

island

land Saint-Salvador: he raised also a most beautiful cross, which was a declaring war to hell, to make it renounce the possession of that land, which for so many ages it had tyrannized over.

The admiral being rose up, they all approached, and not only embraced him, but carried him upon their shoulders in triumph, as having performed the greatest work that ever man attempted, or brought to pass. Immediately after this, the admiral, in presence of a notary, took possession of that land in the name of Their Catholic Majesties, and caused himself to be owned as viceroy, and as such they began to own him, and obey him in all things.

This island, which we shall call Saint Salvador, was about fifteen leagues in length, very woody, and having good water, with a lake of fresh water in the middle of it, and well inhabited by the Indians, who called it in their tongue Guanaani; and it is one of those which since have been called the Lucaicks. It is nine hundred and fifty leagues from the Canaries.

## CHAP. VI.

WHEN the Indians saw such great bulks in the sea, with great sails, and the whole unlike their canoes, and they were drawn near the shore, they remained astonished and beside themselves, because, though by their motion they guessed them to be living things, yet for their bigness they took them for some strange sea-monsters, never seen before on those coasts. The ships came to an anchor close by the shore, and the admiration of the Indians increased still so much the more, seeing white men come out of them with beards and cloaths; yet they did not run away, but drew near without fear, the rather when they saw that the Spaniards began to present them with bells, needles, and other things of Europe, which pleased them extremely, as being new to them: in return they gave the Spaniards gold, provisions, and other things of their country: they came some in their canoes, and some swimming to the ships, where it was wonderful to see how they valued every thing, even to the bits of glazed dishes, or broken earthen ware, that lay about the ships, which they gathered up as jewels which they had never seen. And to say truth, most things borrow their value from their rarity; and for this reason they had as little value for gold and pearls, which were things very common among them, they exchanging whole strings of pearls, and some of them as big as pease and small nuts, for needles and bells, as happened in the islands of the Margarita; so great is the difference in the estimation of things common, or rare ones. The admiral having here got an account of some other islands, went out to discover them; and the second he found he named Santa Maria de la Conception, dedicating it to the queen of heaven: the third he called Fernandina, of the King Don Fernando: the fourth he named Isabella, in consideration of his mistress Queen Isabella. Of all these he took possession in the name of Their Majesties, by setting up their royal standard before a publick notary, with the same solemnity and ceremonies observed in the taking possession of the first island.

On a Saturday, the 29th of October, they discovered the famous island of Cuba, where the Havana is: there the Indians, frightened to see the Spaniards, whom they thought descended from heaven, went to them kissing their hands and feet. The admiral's last discovery was of the island called Hispaniola, where he met with a great deal of gold, and some birds and fishes, like those of Castile. Here the Cacique

Guacanagari received him with much humanity; and in his land he made the first colony; or settlement of Spaniards, which he named the city of the Nativity.

The Spaniards generally were received in these and other the Barlovento Islands, and on the coasts of Terra Firma, with much love and kindness, very few of the Indians offering to resist them. On the contrary, they all were pleased with their coming upon their lands, furnishing them with all that the country afforded, and presenting them with gold, pearls, parrots; contenting themselves with a return of a very small value. Of the European things, those they seemed most to mind, were needles; and at first they could not imagine what they were good for; but being told they were to sew, they answered they had nothing to sew; but yet they kept them, because they had never seen any thing of iron or steel. They were much surprized at the use of swords, and particularly when they experienced their sharpness; for at first they used to take hold of them by the edge with great simplicity.

The admiral, as viceroy of those new kingdoms, began to govern, as he discovered them; and that he might regulate them the better, by consulting Their Majesties in his doubts and difficulties, he made two voyages backwards and forwards to Spain, still making in his returns discovery of some new islands, and amplifying the monarchy, as historians do relate at large, to whom I refer myself, not to engage in matters which are far from my subject; but I cannot but make some reflection upon what happened to this great man. Who would not have thought, considering the happiness with which he had executed all that he had designed, in the most difficult subject in the world, that he was eternizing his felicity, and putting fortune under his feet? But that no one may strive to do it, but that all may know how constant is her volubility, and how perpetual the motion of her wheel, and that there is no human power, nor star, can fix it, I will relate here briefly what befel him.

Let him who governs be undeceived once for all, and know, that to sit upon a throne, and take possession of power, is to be a mark for the censure of the good and bad to aim at; it is just putting himself into the hands of anatomists, to be taken in pieces, and examined to the very bones, and very often envy oppresses innocence by feigned accusations: this is not the place to examine that of the admiral; I only know that there were so many complaints, and such appearances of misdemeanors alleged at court against him; as, that he did not advance the conversion of the Indians, but made them work to get gold, desiring more to make them slaves than Christians; and taking no care to maintain them, and such other imputations; as moved Their Catholic Majesties to send the commander De Bobadilla to examine the truth of what was alleged, and to do justice in requisite cases; writing at the same time a kind letter to the admiral, that he should let the commander execute their orders.

But he exceeding his commission, and the intention of Their Majesties, took all the informations against the admiral and his brothers, and without hearing them, made himself be owned for judge and governor, giving rewards, and publishing that he came to relieve the oppressed, and to pay their salaries, and put all things in good order. This drew over to him all those who had any grudge to the admiral, and most of the common sort sided with him; so he entered into the houses of the admiral and his brothers, seized their goods and their papers; all which he might safely do, without any resistance, for the admiral was away: he sent to seize him and his brothers, putting irons upon their feet, and so shipping them into a vessel, called a Caraval, he sent them away for Spain, to give an account of themselves.

When they came to put irons upon the admiral, there was none so bold as to do it, out of the respect that all had for him; and if he had not had in his family a rogue of a cook,

a cook, who was villain enough to do it, they had not found any one to execute so barbarous a command. When Columbus saw himself put in chains by his own servant, it is said, that shaking his head, he pronounced these words, full of resentment for his usage: "Thus the world rewards those who serve it; this is the recompence that men give to those who trust in them. Have the utmost endeavours of my services ended in this? Have all my dangers and sufferings deserved no more? Let me be buried with these irons, to shew that God alone knows how to reward and bestow favours, of which he does never repent; for the world pays in words and promises, and at last deceives and lies."

Having said this, the ship set sail; and as soon as he came to Spain, Their Majesties, when they were informed of the prison of the admiral, were much concerned; for by no means had that been their intention. They sent for him to come before them; but his tears and sighs were such, that in a great while he could not speak; at last he said, assuring Their Majesties of his great zeal for Their royal service, which had always been his guide, that if he had failed in any thing, it was not out of malice, nor on purpose, but because he knew no better.

Their Majesties comforted him, and particularly the queen, who favoured him most; and after some time, in which the truth of the matter was made out, they ordered, that all that the commander Bobadilla had confiscated of the estate of the admiral and his brothers, should be restored to them; as also, that the capitulation with them should be observed, as to their privileges and exemptions. After this, the admiral returned a fourth time to the Indies, in an honourable way; and employing himself in new discoveries, he arrived upon the coast of Terra Firma of America, the second of November 1502, and coasting along by Cubija, arrived at the port; which, because it appeared so good a one, and the country so beautiful, well cultivated, and full of houses, that it looked like a garden, he called Puerto Bello, or the Fine Port, having discovered other islands in the way, and endured very bad storms. At last, returning back by some of those places which he had discovered, taking, as it were, his leave of them, and returning to Spain, to order there a better settlement of affairs, he died at Valladolid, where the court was, making a very Christian end, and giving great signs of his predestination.

#### CHAP. VII. — *After the Death of Columbus, the Castilians pursue the Discovery and Conquest of the New World.*

AMONG those who accompanied the admiral in his first discovery, there was one Vincent Yanes Pinzon, who being a rich man, set out four vessels at his own charge. He, at his return to Spain, set sail from the same port of Balos upon new discoveries: he first came to the island of St. Jago, which is one of the Cape Verd islands: he set sail from thence the thirteenth of January in the year 1500, and was the first who passed the equinoctial line, by the north sea, and discovered Cape St. Augustin, which he called the Cape of Consolation, taking possession of it for the crown of Castile; from thence he found the river Maragnon, which is thirty leagues over, and some say more at its entrance, the fresh water running forty leagues into the sea; then coasting towards Paria, he found another river very large, though not so broad as Maragnon: they took up fresh water out of it, twenty leagues at sea. He discovered in all a coast of six hundred leagues to Paria, and lost two ships in a terrible storm that he endured.

We have seen also in the last chapter, that Columbus had discovered the island of Cuba, though he could never sail round it, being hindered by the storms and ill weather; so he died without knowing whether it was an island or no, for he judged it to be rather a point of some continent; but it is a very large island, with many fair ports, and mountains full of precious odoriferous woods of cedar, ebony, and many others; and there are in it several cities of Spaniards, and among the rest the strong fortress of the Havana, which is a Scala or rendezvous for the galleons and flotas, loaded with silver from the West-Indies: this is one of the best fortifications the King of Spain has in all his dominions. But, in my opinion, that which makes this island most valuable, is, the good nature and docility of those who are born in it; which was a product of that soil before ever the Spaniards trod it, as they shewed to Columbus, and those who came after him, receiving them with all kindness and humanity.

To further what the Admiral Columbus had begun, God raised an instrument in the person of Vasco Nunnes de Balboa, one of the first discoverers of this new world; a man of good understanding, as he shewed upon the occasion which I shall now relate. He was, with others, upon the discovery with General Encisco, the governor: they came to a place called Uraba, and as they entered the port, by negligence of the steersman, the governor's ship struck upon a sand, and was lost, nothing being saved out of her but the lives of the men, who got into the boats, but naked, and in danger of perishing for want of provision. Vasco de Nunnes said, that he remembered there was not far off a river, the banks of which were inhabited by much people: he guided them thither; and the thing being found to be as he had said, he gained great reputation among them all. They came thither, and found the Indians in arms against the Castilians, whose name was already become odious to those nations: they made a vow to our lady, to dedicate to her the first settlement and church to the honour of her image, under the title of Sancta Maria la Antigua, or the Ancient St. Mary, which to this day is venerated in Seville; and to send her many rich gifts of gold and silver, which one of them, as a pilgrim, should carry in the name of the rest. Being encouraged by this vow, they fell upon the Indians, and obtained the victory.

Presently they made a settlement, and built a town, dedicated to the virgin, calling it Sancta Maria el Antigua of Dairen, because that was the name of that river. After this, to accomplish their vow, they sent the promised presents to the devout image of the virgin.

The good opinion of Vasco de Nunnes increasing thus daily, and having cunningly ordered it so, that Encisco resigned his government, they chose Vasco Nunnes in his room: at first with an associate; but he found means in time to be alone, as it was necessary he should, in point of command, being to overcome such difficulties as were to be met with at every turn: and, indeed, he knew how to make himself be both feared and beloved, having a very good spirit of government. In the new discoveries he undertook, he came first to the lands of the Cacique Ponea, and not finding him at home, he destroyed them: he passed on to the lands of the Cacique Careta, who not caring to enter into war, received him peacefully, and treated him as a friend. This Cacique Careta had a kinsman, who was a lord, that lived further in the country, and his name was Suran; who persuaded another neighbouring prince, called Comagrè, to make a friendship with the Castilians: this prince had a very fine palace, which astonished them; and particularly when they saw, in a kind of chapel or oratory, some dead bodies lying, covered with rich mantles, and many jewels of gold and pearls; and being asked, whose bodies these were, they answered, of their predecessor; and that, to preserve them from corruption, they had dried them with fire. The king  
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caressed the Castilians, and gave them great presents : he had seven sons, and one of them, more liberal, gave the Spaniards a present of near four thousand pesos of fine gold, and some pieces of rare workmanship : they weighed it, and taking the King's fifths, they began to divide the remainder. In the division, two soldiers fell out about their share : the Cacique's son, who had made the present, hearing the noise, could not bear it, but coming to them, struck the balance where the gold was weighing, and threw it all upon the ground, saying, " Is it possible you should value so much a thing that so little deserves your esteem ? and that you should leave the repose of your houses, and pass so many seas, exposed to such dangers, to trouble those who live quiet in their own country ? Have some shame, Christians, and do not value these things : but if you are resolved to search gold, I will shew you a country where you may satisfy yourselves." And, pointing with his finger to the south, he told them they should see there another sea, when they had passed over certain high mountains, where they should see other people, who could go with sails and oars as they did ; and that passing that sea, they should meet with vast quantities of gold, whereof the natives made all their utensils ; and that he would be their guide, and conduct them with his father's vassals ; but that it would be requisite they should be more in number, because they were powerful kings, who could hinder their passage : giving them by this the first notice of Peru and its riches.

This was the first knowledge and light which the Spaniards got of the South-Sea, and of the gold and riches of its coasts, which gave them all great joy ; so that they were impatient to see the hour of breaking through all obstacles, to see that sea never before heard of, and enjoy the riches of it. Vasco Nunnes immediately disposed all things, and went out of Dairen, in the beginning of September in the year 1513, and going along the sea-side, to the habitation of the friendly Cacique Careta, he went towards the mountains by the lands of the Cacique Ponea ; who, though at first he endeavoured to oppose their passage, yet being advised by the Indians of Careta, who accompanied the Castilians, he presented them with gold and provisions, and gave them guides ; they, in return, giving him looking-glasses, needles, knives, and other baubles, which they valued very much. Then they began to mount the mountain through the country of a Cacique called Quareca, who appeared in arms, and attacked the Spaniards : he had a long robe of cotton, but all his men were naked. They began to skirmish, and threaten, by their actions, to hinder the passage ; but no sooner did they hear the noise, and feel the effects of the muskets, and find some to fall, but they turned their backs, flying like a herd of deer, frightened to see the fire, and hear the sound of the volleys, which appeared thunder to them, and thought the Spaniards had thunderbolts at their command ; so they left the passage free for them. The Indians of Careta had said, that from their country to the top of the highest mountain, there was the time of six suns ; for by that they meant so many days' journey ; but the ways were so bad, that they employed five and twenty days to get to the top. A little before they were at the highest, Vasco Nunnes de Balboa caused a halt to be made, desiring to have the glory of having himself been the first man that ever saw the South-Sea. And so it was : he goes alone, discovers that vast ocean, and the large bays of the South-Sea, called Pacifick ; and upon his knees, with tears in his eyes, lifts up his eyes to heaven, giving thanks to the great Creator of all things, for having brought him from such remote parts to contemplate that which none of his ancestors had ever seen : he made a sign after this to his companions to come up, and so they all run in haste, pushing one another on ; and when they were on the top, where there is a full prospect of the sea, it is not to be imagined the content they all received in admiring that vast

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and smooth liquid chrystal, which not being animated, did not on its side give leaps of joy, nor go out of its bed to the tops of the mountains, to welcome those who came to deliver it from the tyranny the devil exercised over it, by infesting it with storms and tempests, and infecting the air with the breath of idolatry, which was breathed in all those parts, both east, west, north, and south. Oh! if all the creatures of that world could have come one by one to see the good that was coming to them by means of the Gospel, which dawned in those mountains; or, if the predestinated of that new world could have viewed from their cottages, and poor habitations, or rather from the deep night of their errors and sins, the sun that was beginning to enlighten them from that high mountain, and the virtue and efficacy of grace, which then began to appear to reconcile them with God, and the blood of Christ, which like a great river was falling through those precipices, till it should bathe the utmost parts of the earth, and give life to those, who, being fallen and covered with the dark shadow, did not only not hope for life, but not so much as know it; how would the children have leaped out of their cradles, who, to go into paradise, expected nothing but baptism, as has happened to great numbers, who just expired when they were made an end of baptizing; and the old men, who wanted only the knowledge of the Gospel to shut their eyes, and being reconciled to God, fly into his glory, how they would open them, and lying upon the ground, fly, at least with their spirit if they could not with their body, to receive the preachers of the Gospel, who brought peace and a general pardon for their sins! All the other predestinated, every one according to his state, who have by this means been saved, (which are infinite) how they would melt and cry with joy, to hear this news, which is as welcome to them, as that of the coming of Christ to the holy fathers in *limbo*, who were expecting it with such languishing desires!

#### CHAP. VIII.—*Vasco Nunnes de Balboa pursues the Discovery of the South-Sea, and dies.*

VASCO Nunnes de Balboa, having performed his devotion, and thanked our Lord, with all his companions, for so great a favour done him, as to bring them to that place, and for the favour he was about to shew to that new world, by the means of the preachers of the Gospel, to whom he thus opened a way to publish it; he then be-thought himself of his second obligation, which was to his King; in conformity to which, he took possession, in His Majesty's name, for the crowns of Castile and Leon, of the place where he was, and of the sea which he discovered from thence; cutting for this purpose many trees, and making great crosses which he set up, and writ upon them the names of Their Majesties.

After this they began to go down from the mountain, marching always prepared for any encounter that they might have with the Caciques in their way; so, though the Cacique Chiapes opposed them with his people, who were stout and many, yet by setting the dogs at them, and beginning to fire their muskets, they were soon routed. This made the Cacique offer terms of peace, and receive and make much of the Castilians, presenting them with gold; and he proved so good a friend, that he pacified many other Caciques, who were in arms, to hinder the passage, who likewise made their presents of gold.

From the town of Chiapes, Vasco Nunnes sent out, to discover the coasts of the South-Sea, the captains Francisco Pizarro, Juan de Escara, and Alonso Martin, each to a different place: this last found two canoes dry on the shore, and the sea below them above half a league: he wondered to see them so far from the sea; and, as he was considering

considering it, he perceived the sea coming very fast in, and did not stay long before it set the canoes on float : he entered into one of them, and took witness that he was the first European that had ever been upon that sea. The tides on that coast ebb and flow every six hours, so as great ships will be left on shore, the water retiring so fast, that it gives great admiration when it returns, to see so great a space covered so fast, that it appears an inundation.

Vasco Nunnes having advice of this, came down also to the coast ; and, going into the sea up to the mid-leg, with a naked sword in his hand, said, that he took possession of it, and all the coasts and bays of it, for the crowns of Castile and Leon ; and that he was ready with that sword, as often as it should be necessary, to make good that claim, against all that should oppose him. The Indians were in great amaze at this new ceremony ; and they were more surprized, when they saw him, against their advice, and that of the Caciques, venture to cross the gulph of Pearls, to discover the riches of it in that commodity ; though it had like to have cost him dear, for he was near perishing in crossing that arm of the sea. Now let us see (in order to undeceive those who shall read this) how little this courage and boldness availed this generous conqueror of the new world, and the great things his invincible mind had brought to pass. All his military prudence and cunning, by which he made himself be respected by unknown nations, availed him little ; for this so fortunate a great captain had a tragical end : he lost his life in Dairen at his return, finding there the governor Pedrarias, who came to succeed him. The King, in sending this man, had recommended to him the person of Vasco Nunnes de Balboa, and ordered him to make use of his council, as of one who had honoured him by his bold undertakings, and to whom, for a reward, he ordered the governments of Panama and Coiba, and the admiralship of the South-Sea, which he had discovered, and on which he had already built four ships, and got together three hundred men, to go upon the discovery of Peru. But the said Pedrarias commanded him on shore, and there seizing him, caused him to be beheaded publicly as a traitor. The crier went before him, crying, as is customary, that he was a traitor ; which, when Vasco Nunnes heard, he said it was a lie, and that no man had served the King with more zeal, nor more fidelity than he, nor more desired to extend his monarchy ; but all his complaints were like voices in the desert, which were of no force against envy and emulation, which had prevailed in his enemies, and which can never fail against those who govern. His death was much resented, and appeared very unjust in Spain, because, indeed, the King lost one of his bravest captains, and one who would have discovered Peru with more facility, and without all those tumults, which since happened ; for his prudence, valour, and zeal, were above the ordinary size.

It cannot be denied, but that the sentence may be justified according to the depositions of witnesses ; but yet it was a great argument of his innocency, that which he himself said to the governor Pedrarias, which was, that if he had in his heart to make himself master, and independent, as they accused him, he would not have obeyed his call as he did, and leave his ship without any difficulty ; for he had then three hundred men all at his devotion, and four vessels, with which he might have been safe, and gone upon new discoveries, if his conscience had accused him. They add here, that an astrologer had told him, that that year he should see something extraordinary in the heavens, he should be in guard against some great misfortune that threatened him ; and that if he escaped from it, he should be the most powerful and happy man in the whole Indies. And that accordingly he did see this sign, but laughed at it, as thinking himself in so high a state.

CHAP. IX.—*The Discovery of the South-Sea, its Ports and Islands, is continued.*

IT is a common passion in those who govern, either to oppose the designs of their predecessors, or at least not to execute them by their means, nor by their creatures, that their assistance may not lessen the glory, which they pretend by making themselves the authors of the enterprizes. As we have already said, Pedrarias succeeded Vasco Nunnes de Balboa in the government, just as he had made the discovery of the South-Sea; and, though the King had recommended the person of Nunnes to him, yet he could not be brought to grant him leave to follow his discovery, though the Bishop of Dairen advised it very earnestly; but he had resolved to give this good morsel to a creature of his, called Captain Gaspar Morales; to whom he added, as companion, Captain Francisco Pizarro, because of the experience he had, having been already employed in the discovery.

They set out from Dairen, and got to the South-Sea, and embarking there in canoes, they came to the Isle of Pearls, which the Indians called Tarargui. These by this time began to endeavour to hinder the Spaniards from setting in their lands, but they were not able to do it, their forces being so much inferior to those of the Castilians, who, passing from one island to another, came at last to the largest, where was the king of almost all those nations, who took arms against the Spaniards, having a brave number of men, and well chosen; but they not being used to fire-arms, they soon yielded and came to composition: to which they were brought also by the fear of a famous dog that was in the Christian camp, who used to fall upon them like a lion; and they having never seen an animal of that sort, did flee him as a devil, because of the mischief he did amongst them; for they being naked, he could fasten any where without danger. The Chiapeses, our friends, presently interposed; and telling the King what dangerous enemies the Spaniards were, and of what importance their friendship was, they being invincible, he at last was prevailed upon to grant them peace. They came to his palace, which was very sumptuous, and, as they judged, better than any they had seen yet. The King received them with marks of friendship; and, as a token of it, caused a basket of rushes full of pearls, which weighed five marks, to be given them; amongst which, there was one which had but few fellows in the world, (for it weighed six and twenty carats, and was as big as a small walnut,) and another as big as a muscat-pear, perfect and oriental, and of a fine colour, weighing ten half scruples. The first came from hand to hand, till it was in the empress's, who valued it as it deserved, as is told by Antonio de Herrera and others. They presented the King, in return, with the usual presents of pins and needles, bells, knives, and other baubles of Europe, which the Indians valued much. The Spaniards not being able to forbear laughing, to see the value they put upon them, the King said to them, "What do you laugh at?" And having heard what it was, he said, "We might more justly laugh at you, for valuing things so much which are of no use in life, and for which you pass so many seas. As for these knives and hatchets you give us, they are very useful instruments to men." This was not the only return the King had for his pearls; for he had the precious pearl of faith by their means: for growing very fond of them, and being by them instructed, he and all his family received the Christian religion, which was the principal end to which the Castilians directed all their enterprizes. They made a solemn christening; and the King, to treat his spiritual fathers, who had engendered him in the Gospel, carried them to see the pearl-fishing, which was in this manner: The Indians dived to the

the bottom, having about their necks a bag full of stones, that they might sink the faster; and it served them for a ballast to keep them steady while they gathered the oysters, that the water might not buoy them up. The greatest oysters are about ten fathom deep; for when they do not go to feed, they keep as low as they can, and stick so fast to the rocks, and to one another, that it is very hard to loosen them; nay, it happens sometimes, that while they spend too much time in doing it, their breath fails them, and they are drowned: but, generally speaking, they are not in danger, because, as they gather the oysters, they put them in their bag, and lighten it of the stones, and before their breath fails, they come up again with their fish. They open the oysters, and take out the pearls, which use to be many if they are small, and few if they are large. They say, that among those they presented the Castilians at this time, were several of the bigness of large pease and hazle-nuts; with which they returned very well pleased to have made a discovery of so rich a treasure, as well as of the rich one they had given in exchange to the King and his people, by making them Christians.

CHAP. X. — *Of the Discovery of the River of Plata, and the Coast of Chile, by the Straights of Magellan.*

WE have hitherto gone by the North-Sea to the Terra Firma, and the discovery of the South-Sea, with intent to follow the discoveries of this new world to its utmost bounds, which is the kingdom of Chile, to which all this narrative is directed. We shall follow this order by the same steps that the first conquerors went; but while they are disposing all things for this great enterprise, it will not be amiss to leave the South-Sea, and follow those who endeavoured to discover the coasts of Chile by the North-Sea. The first we shall follow is Captain Juan Dias de Solis, who sailing from Spain the eighth of October 1515, ran along the coasts of Brasil, till he discovered the famous river of Plata, which was so named, not from any silver that is found near it, or on its banks, but from some plates of that metal which the Indians gave the Spaniards; which silver they had brought from the country about Potosi, with which they had communication by the means of the Tucuman Indians, who are the nearest to that side to Peru. Solis entered that mighty river, which, if I am not mistaken, is threescore or seventy leagues over at its first entrance, and is known at sea by its fresh water, at first; till being further in, they can see the mountains and land that bound it. This river is one of the most famous in the world, of sweet and excellent water, being observed to clear the voice and lungs, and is good against all rheums and defluctions; and all the nations of the Paraguays, who drink this water, have admirable voices, so tunable, that when they sing they appear organs; and therefore they are all inclined to music; and those who come from abroad mend their voices by living there. I know one who was born in Chile, and had naturally a good voice, which he mended extremely by living in Paraguay; but when he left that country, and came to Tucuman, he lost his improvement, as he himself told me. This river has another property, which is, that it petrifies the branches of trees which fall into it. The governor Hernan Darias, born in Paraguay, a gentleman of a singular talent for government, had in his house a whole tree all of stone which had been taken out of this river. Likewise there are formed naturally of the sand of this river, certain vessels of various figures, which have the property of cooling water. There are also certain *cocos de terra*, which contain stones in them, which at a certain time are, as it were, ripe, and burst, discovering amethysts within them; they burst open with a great noise.

There are also bred upon its banks most beautiful birds of several kinds; and in its streams great variety of fishes, very dainty, and in great quantity. The river is navigable every where in canoes, but not with the same canoes, because of the prodigious fall that is in the midst of it, the whole river precipitating itself into a deep gulph, from whence it runs many leagues, till it empties itself into the sea. The noise that this fall makes, the foam that it raises, the whirlpools it causes, by the rencounter of its waters, is not to be imagined. The land on both sides this river is very-fertile; on the west side, which is the Tucuman side, corresponding to Buenos Ayres, there are several cities, as St. Jago de Estero Cordoua, St. Michael la Rioga, and Esteco Juzuy and Salta, which border upon Peru: these cities are not very populous, because they are in the midst of the land, and far from commerce with both seas; but they do increase very much, particularly Cordoua, which, amongst other properties, has that of producing rare wits in the university governed by the Jesuits, who may match their professors and scholars with those of any other part, as I myself have experienced. There are likewise in this district many houses and families of men of quality and antient nobility. Higher up the river to the west, are also the cities of Assumption, Santa Fee de las Corrientes del Guayta, and others. The city of the Assumption is the chief, and was peopled by gentlemen that came first to the Indies, and is since much increased in people, but not in riches; because it being so far within the land, cannot have sufficient vent for its commodities, which are chiefly sugar, and preserved fruits; among the rest they are famous for a dried sweet-meat, called Ladrillos, which are slices of citron, done up in sugar, in the form of a tile; but the best sweet-meat they have they will give in great abundance for an apple, or any European fruit. In all this tract of land there are three governments, which are also bishoprics, to wit, Paraguay, Rio de la Plata, and Tucuman.

Higher yet on the east side are many heathen nations, which have others that answer them on the west; and among these are distributed those famous missions which our fathers of the society of Jesus have founded.

I am sorry I am insensibly engaged in this matter; and I must own I have mentioned that which I cannot well explain. This is not a place for panegyrics, nor does the thread of my history admit of such large digressions; yet I cannot but stop a little, and give some consideration to that we may call miracles of grace, which are performed in those deserts, of which I myself have been an eye-witness, having lived some time in that holy province, to which I owe all that I am. But who can explain what those apostolical men deserve in the sight of God, who seem to have nothing of man but what is necessary to make their lives more admirable, which they lead like angels in human bodies.

Who would not wonder to see in those mountains and solitudes men ill fed, worse lodged, naked, painful, and in anguish for the souls of others, when they might save their own with less trouble, enjoying the good morsels and merry days which, without sin, and sometimes meritoriously, they might have in their own country-among their friends, and in the best of Europe? Who can but admire to see so many youths banish themselves, and, renouncing all preferment, resolve to pass all their lives like hermits, for the love of God, and zeal of the salvation of souls? Is this a work of nature? and can human force arrive to this of itself? Let us go out from this consideration, lest it be like a loadstone to draw us in further; and yet let me fly as far as I will, I cannot hinder my heart from being with them, and desiring to end my days in this employment. They who desire to see the fruit of these missions of our company, the numbers of the gentiles which they have brought from solitudes to live in cities, the

the great progress of the faith, and the numbers of martyrs they have consecrated to God, let him read the book made of all this by that apostolical man Antonio Ruiz de Montoya; and then he will be extremely edified, and admire the work, as well as the author. And so I return to the thread of my history.

Juan de Solis being landed here, found little resistance from the Indians, who are neither so cruel nor so warlike as in other parts; so he took possession of all that tract, in the name of Their Majesties, for the crowns of Castile and Leon, as was always the custom of the first discoverers. And he for himself took possession of those seven feet of earth which death allows to those he seizes, let them be never so ambitious, though while they are alive a whole world will not suffice them. He lies buried there; and an end was put to his discoveries.

Much about the same time, there were at His Catholic Majesty's court the two famous captains Ferdinand Magellan and Ruy Falero, offering their persons, valour, and industry, for to find out, either towards the south or west, an end to America, or some canal or straight by which both seas might communicate with each another; and so the navigation from Europe might be made in the same ships, in which they might go round all its coasts. They were treating upon this subject; and the Portugal ambassador made it his business to oppose Magellan, because being fallen out with his king about this discovery, he desired he might not make it for the crown of Castile; but at last the king having heard at Saragoça, in presence of his council, the reasons and grounds that Magellan and Falero went upon, he accepted their service, and honoured them with the habits of St. Jago; and having settled the capitulation with them, His Majesty commanded the squadron to be made ready, and named the captains and officers of it; and having heard that there was a dispute risen between Magellan and Falero, about who should carry the royal standard or flag, and the like, he ordered Falero, as not yet well recovered of a distemper he lay under, to stay at home, and mind his health; and, in the mean time, that another squadron should be got ready, in which Falero should follow.

The first squadron being ready, His Majesty commanded the assistant of Seville, that he should deliver the royal standard to Magellan in the great church of Santa Maria, of Victory of Triana, taking at the same time from him an oath of fidelity, or homage, according to the custom of Castile, that he should perform the voyage with all fidelity, as a good and loyal vassal of His Majesty. The captains took likewise an oath to obey Magellan in all things. He, after many vows, having recommended himself and his voyage to our Lord, went on board the ship called the Trinity, and the treasurer general in the Victory (so famous for being the first that went round the world). The other ships were the Conception, St. Jago, and St. Anthony.

They set sail the tenth of August in the year 1519. They took the isle of Teneriff, then made the coast of Guinea, and arrived at Rio Genneiro; from whence they sailed on St. Stephen's day, and having had a great storm, they entered into the river of Plata: here they stayed eight days; and then following their voyage, they had another terrible tempest, which carried away their fore-castle, and forced them to cut away their poop. They made vows to our Lady of Guadalupe and Monferrat, and to St. Jago of Galicia. It pleased God to hear them, and they took shelter in the river of St. Julian, but not all; for one of their ships was lost: the men got on shore, but enduring so much by land to port St. Julian by hunger, that they seemed skeletons when they came to their companions.

While they were wintering in this river, either idleness, or the great sufferings they had undergone, and those which they feared, made them mutiny against Ferdinand Magellan. There were some of his ships that revolted; but he with great boldness, and no less art, made himself master of them, punishing some of the guilty, and pardoning others; and for Juan de Carthagená and his companion in rebellion, he set them ashore when he set sail, leaving them a good provision of bread and wine. It was never known whether this was sufficient to sustain them, till they should meet with some of those giants which had been with the ships, and had been treated by Magellan, who perhaps received them.

Magellan seeing the winter over, as he thought, set sail the seventh of November, which is when the summer begins in those parts; and having by land observed what he could of the straight, they passed with great good fortune in twenty days, and then steering north, they coasted along Chile, which they left something at large, as having no knowledge of that land, Peru being not yet discovered. After this, they came to the Philippine Islands, in one of which this most courageous captain, and famous Portuguese, Magellan, died by the hands of the natives, or to say better, by his own rashness and over-boldness.

Some years after, which was that of 1534, Simon of Alcazova, a Portuguese gentleman of the habit of St. Jago, and gentleman of the chamber of the King, a great cosmographer, and one very expert in navigation, having been employed many years for the crown of Castile, made an agreement with the king to discover and people two hundred leagues from the place where Albagro's government should end, which was in Chile. He sailed from St. Lucar on the 21st of September 1534, with five good ships, and two hundred and fifty men; and without seeing land from the Gomera to the straight of Magellan, only having touched at cape Abre Ojos, and the Rio de Gallegos, about twenty-five leagues from the straight's mouth, he entered them on the 17th of January 1535, having endured so much thirst, that the cats and dogs were come to drink wine, and the people were ready to perish. They found a great cross erected by Magellan, and the wreck of the ship which he lost there. There appeared about twenty Indians, who gave signs of much joy to see the Spaniards. They followed their course, keeping still the right hand, as the safest; but yet they had so furious a storm, that it carried away half their sails: it blew so, that they thought the ships would have been carried away through the air. They took shelter into a port; and because the season was so far advanced, they persuaded their general Alcazova to go out of the straights, which he did, and return to the port of Lions, or of Wolves, which was a very good one.

While they were wintering in those parts, they resolved to enter further into the country, and make discovery of those riches which the Indians told them were there; so having celebrated mass, they blessed the banners, and the captains took a new oath of fidelity and obedience; and with this they set out about 225 men, having fifty arcabuses, seventy cross-bows, four charges of powder and ball, which every one carried with his bread, which was about twenty-six pounds weight. Thus they marched about fourteen leagues; and there Alcazova, being a heavy man, could go no further, which was his ruin; he named a lieutenant, against whom the men mutinied; for having gone ninety leagues, and their provision failing, they resolved to go back, as they did, though they had met with a river full of fish; and that their guides told them that a little further they should come to a great town, where there was a great deal of gold; for the inhabitants wore plates of it in their ears, and upon their arms: but nothing could move them: and as one mischief seldom comes alone, they resolved

to make themselves masters of the ships at their return, and to kill all that should oppose them; and so they executed it. But God Almighty punished them immediately; for as they were going out of port, they lost their admiral; and then having but one ship, durst not venture for Spain, but put in at Hispaniola, where Doctor Savaria, of the audience of St. Domingo, chastized the most guilty. And thus the discovery of Chile, for that time, and that way, was disappointed: for God reserved that honour for another.

#### CHAP. XI. — *Of the Discovery of other Parts of America before that of Chile.*

WHILE the ships are making ready to go to the discovery of Peru, it will not be amiss to touch upon the discovery of some other parts of America by the by, that at least the order of time, with which the discoveries preceded each other, may be understood; and what we are to say afterwards about Chile will be made plainer, that being our chief design.

It has been said already, in its proper place, how the Admiral Columbus discovered the Terra Firma, or continent of America, in his fourth voyage from Spain to the Indies, and found the port of Puerto Bello the second of November 1502. We have also said how Vasco Nunnes de Balboa having founded Sancta Maria la Antigua of Dairen, discovered the South-Sea, and took possession of it in the month of September or October in the year 1513, as also that in the year 1515, Juan Dias de Solis discovered the river of Plata the first of all discoverers.

Now we will add what is known about the discovery of other lands; amongst the which, one of the first was that of Yucatan, which was undertaken by Captain Francisco Hernandez de Cordoua, in the year 1517, and the Adelantado of it is at this day Don Christoval Soares de Solis, a gentleman of an antient and noble family in Salamanca. This same year other Castilians discovered the land of Campeche, where, in a chapel of the Indians, full of their idols, they found painted crosses, of which they were not less astonished than rejoiced, seeing light in darkness, and the trophies of Christ by the side of Belial; which, at last, by the Spaniards' arrival in those parts, were better known to those barbarous people. In the year 1518, the Licentiado Espinosa, who was named deputy to the governor Pedrarias, founded the city of Panama, which is the canal by which all the treasure of Peru passes to Spain in the galleons. This city has not increased so much as many others of the Indies, because being situated near the equinoctial line, its temperature does not agree with those born in Europe; but yet there are many constitutions that do very well there, because of the great riches that are easily acquired there: and those who seek them, think no air bad. There are a great many people of quality: for there is a bishopric, a royal Audiencia, or court of judicature; a tribunal of royal officers, and a chapter of canons, seculars and regulars. But that which in my judgement is most commendable in it, is the piety, mercy, and liberality of its inhabitants. I have this year received advice, that by the negligence of a female slave, the greatest part of the city was burnt; for the houses being of wood, if one take fire, it is hard to stop the flames: there was lost in this a great mass of riches, a great part of the loss falling on the cathedral; and a little after, there being a gathering made, though this misfortune had concerned almost every body, who for that reason were less in a condition to contribute by way of alms, which some of them wanted, yet they gave above twenty thousand pieces of eight, and went on contributing. This was an extraordinary mark of their charity; but

but the ordinary ones, in which they constantly show their generosity, are to strangers and passengers who pass from Spain to the Indies, who most of them are at a loss till they meet with some patron, or friend, or countryman, to assist them; and they would often be reduced to great extremity, if this were not, as it is, a common inn for all those people; for in the college of our company alone, though it is not yet founded, but lives upon alms, I saw when I was there, a cloth laid at the porters' chambers, where every day they provided for, and fed about fifty or sixty passengers, with bread and flesh in abundance. The same is done by other convents; and the seculars, I saw, gave them money and other necessaries. This, as to the city of Panama, founded in the year 1518, in which year the religious friars of St. Dominick and St. Francis passed from the island of Hispaniola, and began to found convents in Terra Firma, and the pearl coast; from whence these two holy orders pursued their mission through all the land, enlightening it with their doctrine and holy examples; by which they have made such a progress among the Indians, that the present flourishing of the faith is owing to them, to the great saving of the Indian souls. The year 1519, Ferdinand Magellan made the discovery of the coast of Chile; and the same year Hernando Cortes went from the point of St. Antonne la Havana to Corocha, which is the first point of Yutacan east, to begin the conquest of the great empire of Mexico; of which, and the noble actions of that great man, it is better to be silent than to touch upon them only by the by, as we should be forced to do; this being not a place to explain the state and grandeur of that mighty monarch Montesuma, who was sovereignly obeyed in so many and such great provinces. Who can express in few words all this, and the felicity that accompanied Cortes in all his undertakings, which were such as they appeared possible only after they were done, seeming otherwise so high and difficult, as to be inaccessible to the extremest boldness? Indeed, it cannot be denied, but that he was assisted by heaven, whose instrument he was in planting the Christian faith among those gentiles, and shewing such reverence to the preachers of it, as might serve the Indians for an example; a quality which will always give reputation to princes, both before God and men.

In the year 1528, the king sent a colony to the Rio de la Plata, having agreed with the merchants of Seville for that purpose. The city they founded was that of Buenos Ayres, which is on the side of that river, in that part of it where it grows narrow from its large entrance at sea; and the river there is not above nine leagues over. In the year 1532, Cedro de Heredia of Madrid sailed from Spain, and founded the city of Carthagena, which is the first Scala which the Spanish galleons make coming from Spain for the Indies, to fetch silver. It was so called, because its port was like that of Carthagena in Spain; for the old name of the Indians was Calamari. He had at first an engagement with the Indians; and though they showed themselves very brave, yet he beat them, and founded the city, which is at present one of the best of the Indies, being walled with stone, and so strong, that we may name it as an impregnable fortress.

It is situated in an island, divided from the continent by a small arm of the sea, which ebbs and flows, and comes to the bog of Canapote: there is a bridge or causeway there, that goes to the Terra Firma. The port is very safe, and good ships go into it by two mouths or entrances, a greater and a less; the great is sandy; and the year that I was there, they told me that it was almost shut up by the sand which a river casts up against it; and now they write me word, that it is quite filled up, so that there is no going in but by the lesser entrance, which makes it so much the stronger, and it is defended by a good castle; besides which the city is well garnished with artillery,

so as not to fear an invasion. The plot of the city is very beautiful, all the streets being handsomely disposed, the houses of free stone, high and noble; so are the churches and convents, particularly that of the Jesuits, which makes a beautiful prospect to the sea. Here is a custom-house for the king, and a house called of the *Rigimiento*, with other public buildings; it is very populous, and of a great trade, by reason of the coming of the galleons; and from them they have wine and oil; corn they have in their own territory: there resides a bishop, and there is a tribunal of the Holy Inquisition. The governor hath both the civil and military command: it increases every day in riches, being so situated, that it shares all the riches of Peru, Mexico, and Spain.

In the year 1540, Captain Francisco de Orellana discovered the great river of the Amazonas, which is called also Orellana, and by a common mistake Maragnon; and went from it to Spain, where, upon the relation he gave of its greatness, the Emperor Charles V. ordered him three ships, with people, and all things necessary to make a settlement. But this had no effect, because having lost half his men at the Canaries and Cape Vert, he was too weak when he got thither; yet he attempted to go up the river in two large boats, to which his fleet was reduced; but finding his wants of every thing, he came out again, and went by the coast of Caracos to the Margarita, where he and his people are said to have died. About twenty years after, the viceroy of Peru sent a good fleet under Pedro de Orfua: but this miscarried also, because he was killed treacherously by Lopes de Aguirre, who rebelled with the fleet; but having missed the entrance of the river, he landed on the continent, near the island of Trinidad, where he was executed by order from court. Some years after this the sergeant-general, Vincente de los Reyes Villalobos, Alonzo de Miranda, and the general Joseph de Villa Mayor Maldonado, undertook the same design, but with the same fortune, death taking them away; so that they gave over at that time all attempts on Peru and Quito side. But still the fame of this river continuing, Benito Maciel, general of Paria, and since that governor of Maragnon, and Francisco Coello de Caravallo, governor likewise of Maragnon and Paria, attempted its discovery up the river; and though they were backed by the king's royal commands, yet there were many cross accidents as to hinder the execution of their enterprize.

The fathers of our company of Jesus attempted likewise this discovery, by the motive of saving so many souls; but beginning with a nation called the Cofanes, their progress was stopped by the cruel death given to Father Raphael Fernandes, who was preaching the faith to them. Thirty years after, which was 1537, some friars of the order of St. Francis, moved by the zeal of amplifying the glory of the gospel, and by order of their superiors, went from Quito, in company of Captain Juan de Palacios, and some soldiers: they began to sail down this river, and came to the Encabellados, or people with long hair; but not finding the harvest ready, they returned to Quito, except only two of their lay-brethren, which were Domingo de Brieva, and Friar Andres de Toledo, who with six soldiers more sailed down as far as the city of Paria, a settlement of the Portuguese, about forty leagues from the sea. They passed by the city of St. Luis de Maragnon, where the governor Jacomo Reymondo de Moronna, by the information he had from these friars, caused seven and forty canoes to be got ready, and embarked upon them seventy Spaniards, with 1200 Indians, some of war, and some to help to row, under the command of Captain Pedro Texeira, who, having spent a whole year in his voyage, came at last to the city of Quito, having discovered and navigated the whole river of the Amazonas, from its entrance into the sea to its source or rise.

The viceroy of Peru, who at that time was the Count de Chinchon, being informed of this voyage of Captain Pedro Texeira, resolved to send two persons back with him for the crown of Castile, who might give a perfect relation of the discovery.

At this time the city of Quito was governed by Don Juan Vasques de Acunna, as corregidor for His Majesty over both Spaniards and Indians, and who at present is corregidor of Potosi, who very zealously offered his person for one, and his fortune to raise people at his own charges, and provide them with all necessaries; but the royal Audientia, considering how much he would be wanted in his office, where his prudence, experience and zeal, had showed themselves, refused to let him go, and chose a brother of his, that they might not totally deprive his illustrious family of that glory. This brother was a father of our company of Jesus, and named Father Christoval de Acunna, who was rector of the college of Cuença, and gave him for companion Father Andres de Arrieda of the same company, who was professor of divinity in the same college.

They set out from Quito in the year 1539, and having navigated the whole river, which, according to their account, is thirteen hundred and fifty-six leagues long (though Orellana makes it eighteen hundred leagues), observed exactly the rise of this great river, its situation, its course, latitude, and depth, the islands it makes, the arms into which it is divided, the rivers it receives, the riches, quantities, temperature, and climate of its shores, the customs and manners of that multitude of people that inhabit it, and particularly of those famous Amazonas. All which may be seen in a treatise made of it by Father Christoval de Acunna, printed in Madrid; and it is a relation that deserves credit, he being an eye-witness, and having examined various nations as he went.

These informations were well received in Madrid; but the revolutions which succeeded in those kingdoms hindered all further progress, and prevented those holy designs for the conversion of that great part of America. There are infinite numbers of Indians that inhabit the islands, and other parts of this river. It is said they have one settlement, that is a town, above a league in length. And now, omitting many other conquests, made much about the same time in the islands and coasts of the North-Sea, and that which was made in the South-Sea by Xil Gonçales de Avila, in the land of Nicaragua, in the year 1522, let us attend (for it is high time) to the discovery of Peru, of which we shall treat more at large, because it has a connexion to that of Chile.

CHAP. XII. — *The Discovery of Peru is given to Don Francisco Pizarro, and Don Diego d'Almagro, and Hernando Loque; and how much they endured in it.*

THE captains Don Francisco Pizarro, and Don Diego Almagro, in company with the scholastic of the cathedral church of Dairen, called Hernando de Loque, came to the governor Pedrarias, and desired of him, as friends, the favour of being employed in the discovery and conquests of those coasts which run south from Panama, where lies the powerful kingdom of Peru, of which at that time there was little light; and for this they proposed their reasons; among which, that which was of least value, they relied most upon, and that was their experience they had attained under their general Vasco Nunnes de Balboa. They met with little difficulty with the governor; for so long as they did not desire any assistance of the King's treasure, but ventured their own and their lives, they easily obtained leave to undertake what they would. They pre-

sently bought one of the ships which Balboa had built for that design ; and having got together three score men, and four horses, (for at that time horses were a great rarity,) Hernando de Loque said mass ; and when he came to consecration, he divided the Hostia, or sacrament of the body of Christ, into three parts, of which he took one, and gave the other two to his two companions, offering themselves to God, with intention to propagate among those people his glorious name, and plant the Christian faith amongst them by the predication of the Gospel. Those who were present shed tears out of devotion, and at the same time pitied these undertakers, looking upon their enterprize as a mad one.

About the middle of November 1524, Don Francisco Pizarro having left Don Diego Almagro behind him, to get more people together, sailed from Panama to the Isle of Pearls, to the port of Pinna, (the last discovered by Balboa, and after him by Pasqual de Andagoya,) and went up the river of the Cacique Biru, or Biruquete, to the country of Chocama, where he stopped to wait for his companion Almagro. The hardships that the Castilians endured of hunger and other inconveniences are not easily to be told : twenty died starved, and the rest were sick, having no other sustenance than the bitter Palmetos ; yet Captain Pizarro, without shewing the least weakness, took care of them all with great affection, which made them all love him. At that time Don Diego d'Almagro, his companion in the undertaking, came to him : he was received like an angel, for the relief he brought : he had lost one of his eyes by the shot of an arrow, in a rencounter he had with the Indians. They both together pursued their conquest ; but provision failing them once more, and their soldiers being almost naked, and so persecuted with mosquitoes, which are infinite there, that they could not live, they began to talk of returning to Panama, to which Pizarro himself was well enough inclined ; but Almagro exhorted them rather to die than lose patience, offering to return to Panama for new succour, while he should leave his companion in the island of Gallo.

The effect that this had, was, that he found the government altered in Panama, and Pedrarias succeeded by Pedro de los Rios, who hearing of the miserable condition of those Castilians, would not suffer Almagro to return to them, being desirous they should give over the enterprize as impracticable. He sent for this end a gentleman of Cordoua, called Juan Tafur, a man of excellent parts, equal to his noble descent, with a commission to bring those people back, that they might not all perish. He came, and signified his order to Pizarro, at which he was out of all patience, seeing it would be the ruin of his project. Tafur seeing this, took a prudent medium, which was, that he should draw a line between him and Pizarro, who should be at the head of his men : and Tafur told them, that all those who resolved to return to Panama, should pass the line, and come on his side. Having said this, they began to pass the line, all so thirteen and a Mulatto, who said they would die with Pizarro : and so Tafur returned with all the rest to Panama.

Captain Francis Pizarro remained with his thirteen companions in an island, which, for the greater proof of his courage and constancy, happened to be the Gorgona, which is a picture of hell for the closeness of its woods, the asperity of its mountains, the infinity of its mosquitoes : the sun is scarcely ever seen in it for the continual rains that fall.

When Tafur came to Panama, and his two friends Almagro and Loque found that Pizarro staid behind with so few companions, it is not credible how much affliction they shewed : they solicited the president, that at least another vessel might be sent to bring them away, in case they found them alive ; and after many difficulties, at last a ship was ordered after them, but upon condition to be back at Panama in six months : the

ship sailed, and came to the place where Pizarro and his companions were left. Who can express the joy and surprize of those poor abandoned wretches, when they descried at a distance the sails of the ship? At first they could not believe their own eyes; for the desire and longing for a thing makes it appear less probable to come to pass: but at last it arrived; and Pizarro seeing himself master of a good vessel, could not forbear attempting some discovery.

They sailed as far as the country of Tumbeſe, which is very rich; though the Tumbeſe Indians ſaid, that their riches were nothing in compariſon of what they might ſee farther. The lord of that country having heard of the arrival of the Caſtilians, he ſent preſently to viſit them at their ſhip, with twelve baſkets of proviſions, and, among the reſt, a ſheep of that country, which was preſented to them by the virgins of the temple, as to men who ſeemed deſcended from heaven, and ſent by God for ſome great thing. The ambaffadors came; and wondering to ſee the ſhip with white men who had beards, they aſked them, Who they were? whence they came? and what they pretended? They answered them, that they were Caſtilians, vaſſals of a powerful monarch, who, though ſo great, had yet a greater over him, whom he owned, with all other kings, and who is in heaven, and is called Jeſus Chriſt, in whoſe name they came to undeceive them of their errors in worſhipping gods of ſtone and wood, there being but one God, Creator of all things, whom we all ought to worſhip. They explained to them, that there was a heaven and hell, the immortality of the ſoul, and the other myſteries of our faith.

The Indians ſtood ſtaring and gaping, hearing this doctrine, which had never been heard of before in their country; for they believed, that there was no other king in the world but their King Guayanacapa, nor other gods but their idols. Among all the things they admired, there were two chiefly: the one was a negro; for they never had ſeen one, and did believe that his colour was ſome ſtrong dye; for which reaſon, they beſtowed much pains in waſhing his face to get it off; but when they ſaw that he was rather blacker, and that he ſhewed at the ſame time white teeth, for he could not hold laughing to ſee their ſimplicity, they fell a laughing too, and could not but admire ſuch a ſort of men. The other thing was the crowing of a cock, which the captain ſent them with a hen of Caſtile: every time he crowed, they aſked what he ſaid? for they thought his voice articulate, like the human voice; which is an argument that they had not that kind of fowl: and Garcilaſſo de la Vega is of that opinion, answering the objection of the Indian name they give a hen, that is, Atagualpa, which, he ſays, was a name given by the Indians after the coming of the Spaniards. The Spaniards having reſreſhed themſelves well on ſhore, began to deſire of Pizarro to return to Panama, and gather a greater force, that which he then had being very diſproportioned to his undertaking: he yielded to their perſuaſions, having, for this time, made diſcovery only as far as a place called Santa, which is very near the equinoctial line; and having had a more certain account of Cuſco, its riches, and the mighty empire it was head of. So taking with him ſome Indians, and ſome patterns of the gold, as a teſtimony of the diſcovery, he returned to Panama.

CHAP. XIII. — *Captain Francisco Pizarro returns to Panama, goes from thence to Spain, and purſues his Conqueſt.*

PIZARRO being come to Panama, went with his two companions to the Governor Don Pedro de los Rios, to repreſent to him their reaſons for continuing their diſcovery, upon

upon account of the riches of the country, as well as the planting the faith in the capital of so great a monarch, and so in all its dominions: but the governor would not agree to it; and so they resolved that Pizarro should go to Spain, to propose it to the King himself. He undertook the voyage; and, to give more credit to what he should say, he took along with him several things proper to the country he had discovered, as pieces of gold and silver, some of those sheep we have mentioned, and some of the Indians themselves clothed after the manner of their country. The King was much pleased with them; and Pizarro, in his first audience, began to propose the intent of his discovery, the great hardships he had endured, he and his companions going naked, and almost starved, exposed to the mosquitoes and poisoned arrows of the Indians; and all this, having spent three years in this sort of life, for the increase of the Gospel and His Majesty's royal dominions. His Majesty heard him with much attention and goodness, shewing great compassion for his sufferings, and ordered a gratification for himself, and his two companions, as also the thirteen who would not forsake him: he received all his memorials, and ordered them to be dispatched to his mind, having first made an agreement with him proportionably to his great merits. They did not believe in Spain (and that is an old disease every where) all that Pizarro said of the riches of Peru, and of the palaces and houses of stone which he had seen, till he shewed them the pieces of gold and silver which he had brought with him; and then the fame of that land began to spread itself, and with it the covetousness of sharing those treasures, every one blaming the governor of Panama for not having given the necessary assistance to the discovery.

Pizarro being dispatched with the title of Adelantado of the first two hundred leagues he should conquer, having also a new coat of arms, and other privileges granted to him; and taking with him four stout brothers that he had, he embarked for the Indies with one hundred and twenty-five Castilians more. He left Sanlucar in January 1530, and arrived at Puerto Bello, where he was received with great joy by his companions and friends, who were all pleased with the favours the King had bestowed upon them by his means: only Don Diego de Almagro was not so well pleased that Pizarro had made a better bargain for himself than for him, his partner in all the undertaking; he made his complaint to him, and resolved to part company, and discover and conquer by himself: but being assured, that as soon as the first two hundred leagues should be conquered, he would use his interest to have him made Adelantado of two hundred more before any of his brothers; and so suffering himself to be persuaded, they agreed anew, and fell to preparing every thing for their enterprize. He remained at Panama; and the Adelantado, with his brothers, went from thence with a good crew of men, being to be followed by Almagro, as before. To make short about the things performed by this great conqueror, the great riches he got, and among the rest an emerald as big as an egg, which was presented to him, we will suppose him at the island of Pura in war with the Tombezinos; and there he came to a clearer information of the riches of Cusco, and the state in which that monarchy was at present: and because he had received a special command, and was himself inclined to propagate our sacred religion, as the best means of furthering his own design, the first thing he did, in landing upon the continent of Peru, was to build a church to God, to give a beginning to the spiritual conquest of souls. His first settlement was at Pura, where was built the first church that was ever erected in those kingdoms. While he was employed in this, he sent out to discover more lands, to know more of the state of the country. There he learnt the division that was between the two brothers Guascar and Atagualpa, which was occasioned by the death of their father Guayanacapa, who was a most powerful monarch.

narch, and among other sons had these two, which were now in war, and some of his subjects followed the one, and some the other. Guascar was the lawful heir, but not so brave and warlike as Atagualpa, who, though a bastard, yet because he had followed his father in his wars from a child, drew to himself a great part of the kingdom, with which he made war upon his brother, with hopes to prevail.

The Adelantado Don Francisco Pizarro resolved to have an interview with Atagualpa, who was the nearest to the place where he was. So putting his trust in God, he set out with his small army, more to be valued for its bravery than its number, which nevertheless was feared and respected in its march. He came near the place where Atagualpa had his camp, which was near fifty thousand men, and sent him his ambassadors on horseback, which was a new thing in that country, to give him advice of his arrival, and the reason of it, which was, to persuade His Majesty, and his vassals, to give obedience to the true King of Glory, from whom is derived all the power and command that princes have on earth. Atagualpa received the ambassadors in a stately tent, shewing in all his behaviour a sovereign majesty; and though his courtiers were in great admiration of the horses, which they had never seen, yet he kept his countenance, and concealed the effects such a novelty might have over him. He looked upon them with some pleasure, and not as on a strange thing he had never seen; for the horses beginning to corvet, some of his Indians run away, whom he presently caused to be put to death, for having shewed cowardice in his royal presence. He answered the ambassadors courteously, shewing the pleasure he should have to see and hear their general; and set a day for it, telling them, that they should not be disturbed, nor afraid to find him and his people in arms, for it was his custom to use them to it.

The day came; and Atagualpa marching in order with his army to the place where the Spaniards were drawn up, he discovered to his captains the mind he had to make an end with those strangers, who had been so bold as to enter into his country, and come so near him without having any respect to his royal power; but he ordered them not to kill them, but to take them alive, because he would use them as his slaves; and as for the dogs and horses, he resolved to offer them in sacrifice to his gods. The Castilians, who were not totally ignorant of this false appearance of peace and friendship, though they were so few that the Indians were four hundred to one, yet they did not lose courage; but with confidence in God expected the encounter, taking their posts, and preparing every thing for it, though secretly, that they might not be thought the aggressors. Therefore he drawing near, the Adelantado staid for him with only fifteen men, the rest being retired and hid, and sent him an embassy by a friar, who carried the Gospel, and told him, "That in those books were contained the faith, by which he and his people might be saved, and they brought it him from God Almighty."

The King heard the friar, and took the mass-book out of his hands, looking earnestly upon it; but not knowing how to read it, and taking it all for a jest and a fiction, he threw the book up into the air, making a sign at the same time to his people to fall on; which they did; and then the Adelantado lifting up a handkerchief, which was the signal to our men, they played upon them with their muskets on one hand, and the dogs and horsemen attacked them on the other, so that the victory soon appeared for the Castilians; God Almighty having resolved to destroy that monarchy of the Ingas, and to remove that obstacle to the propagating of the faith, and to put that land into hands that should increase it, as Their Catholic Majesties have done. They took the King Atagualpa prisoner; but treated him with all respect due to his royal person, as the historians relate more at large. While this happened, which was on a Friday, a day dedicated

to the cross, in the month of May in the year 1533, the army which Atagualpa had sent against his brother Guaſcar, near Cuſco, overcame him and took him priſoner, and were bringing him to Atagualpa, without knowing any thing of what had happened between him and the Caſtilians; but on the way Guaſcar learned that his enemy was a priſoner too; and Atagualpa was at the ſame time informed of the victory he had obtained; he hearing it, ſhook his head, and cried, “O fortune! what is this, that I am this day a conqueror, and conquered?” Guaſcar moderated his grief with the news of his enemy's miſfortune, thinking that the Caſtilians would revenge him on the tyrant, who pretended to take from him his lawful inheritance.

Atagualpa, though a priſoner, began to make reflections in this manner: If I cauſe my brother to be put to death, how do I know how the Caſtilians will take it? and whether they will not put me to death for this, and remain lords of the land? If I let him come on, and he ſpeaks with them, the juſtice of his cauſe will ſpeak for him, and I muſt periſh; for I cannot expect mercy from any. What remedy? He found it cunningly, as he thought: he feigned a great ſadneſs, with a deſign that the Pizarros, who viſited him every day, ſhould aſk him what was the matter. They did accordingly; and, ſeeing him ſo afflicted, deſired to know the cauſe of that extraordinary grief. He answered deceitfully, that having received the news that his generals had put to death his brother Guaſcar, it gave him an exceeding grief, of which he was not to be comforted; becauſe, though they were enemies, yet he was his brother; and he could not but be much concerned at his death. All this was feigned, to ſee how the Spaniards would take it; and finding they did not ſeem offended at the thing, he ſent orders immediately to his generals, who were coming on with his brother, that they ſhould put him to death preſently by the way; which they did, by drowning of him in a river, which amongſt them is an infamous death. His cries to Heaven to revenge his unjuſt death, were uſeleſs at that time.

But let no man give it to another to ſave his own life; for there is not a ſhorter, nor a more certain way for him to loſe it: let him not ſtrive by politick maxims, which an unjuſt and ambitious paſſion ſuggeſts; for though that may be an appearance of ſtability, yet divine juſtice breaks through it all like cobwebs, and at length leaves no crime without its chaſtiſement. Atagualpa proved himſelf a great example of this truth, all his artifices ſerving only to afford his enemies a pretext to take away his life. He had promiſed to fill the room where they kept him priſoner, which was a very large one, with gold and ſilver, beſides ten thouſand bars of gold, and ſome heaps of jewels, as an earneſt, for his ranſom. And though this was accepted; and that he performed it according to his promiſe, yet he did not obtain what he pretended; for, inſtead of his liberty, they pronounced to him a ſentence of death, which he juſtly deſerved for having put his brother to it, and tyrannized over that which was none of his own; and becauſe of the advice the Spaniards had every day of the army that was gathering together, which if it were true, and Atagualpa at liberty at the head of them, there would have been good reaſon to fear, from his ſubtilty, great and irremediable inconveniences, which they thought they could no ways avoid ſo well as by taking his life, though with ſome hopes of his exchanging it for a better and eternal one, if it be true that before he died he was inſtructed, and received baptiſm, as ſome ſay he did.

About this time, which was in the year 1533, Don Diego d'Almagro being made marſhal, came from Panama to Tombez with a good body of men and arms; and from thence he went on to help his good friend, the Adelantado Pizarro, in his conqueſts, not letting his men do any injury to his Indians as he went. There were a  
hundred

hundred thousand pieces of eight given them upon their arrival; for though they were not at the battle, yet their presence confirmed the victory, and helped to keep Atagualpa prisoner. The remainder of the treasure, which was above a million, was divided among Pizarro's men; and they being few, were all made rich, and in a condition to make discoveries of their own. The Adelantado sent his brother Hernando Pizarro to Castile, with the news of this happy progress of their discoveries, and of the propagating the Christian faith in the conversion of the Indians; and he also carried with him the claim of Don Diego d'Almagro to two hundred leagues of land beyond his brother's, of which he was likewise to be Adelantado. All this he negotiated very much to the content of all; and in the year 1534, there was granted, in Toledo, to Don Diego d'Almagro the government of that which they called the new kingdom of Toledo, which began at a place called Las Chinchas, where the territory of Pizarro ended, and extended itself to the Straights of Magellan.

CHAP. XIV. — *The News of the Government of Don Diego d'Almagro is brought to him; and he goes upon the Discovery of that of Chile.*

DON Francisco Pizarro had given commission to Don Diego d'Almagro, to take possession of Cusco, when the news came of the government of two hundred leagues given him by His Majesty, to begin from the Chinchas. This caused great disturbance; for it was believed that Cusco would fall into this division; and the friends of Don Francisco Pizarro, judging this of great prejudice to Pizarro, that the marshal, even by his commission, should find himself in possession of Cusco, they advised him immediately to revoke the powers he had given, which he did; and this was the first cause of the disturbance in Peru, which made afterwards so great a noise, and for which they both lost their lives. But I being to write the history of Chile, and not of Peru, shall leave the reader to those historians who treat of it at large. This news being known in Truxillo, one Diego d'Aguero set out to carry it to Almagro, who was upon his march to take possession of Cusco. He overtook him at the bridge of Acambay; and he having received it with great moderation, shewed himself above the greatness of his fortune, and gave him as an Albricias, or present for his good news, seven thousand Castilians, which are near twenty thousand ducats; and by this news he was moved to change his design of conquering a people called the Chiriguænaes, and treated of that of Chile; for he supposed it would fall into the government he was to have, and (as Herrera says) moved by the informations he had of the great riches of Chile.

To prepare himself for this enterprize, which was like to be very chargeable, he caused a great deal of silver to be melted in Cusco, to draw out the King's fifths. Amongst other things, there was a man's burden of gold rings to be melted down; and one Juan de Lepe being by, and taking a fancy for one of them, begged it of Marshal Almagro, who shewed himself so much a gentleman, and so liberal, that he said presently, that he should not only take that ring, but that he should open both his hands, and take as many as could lie in them; and hearing he was married, he ordered him besides four hundred crowns as a present for his wife. He shewed another piece of liberality to one Bartholomew Peres, for having presented him with a shield, which was to order him likewise four hundred pieces of eight, and a silver pot weighing forty marks of silver, and had for handles two lions of gold, which weighed three hundred and forty pieces of eight; and to one Montenegro, who presented him with the first Spanish cat that ever came to the Indies, he ordered six hundred pieces

of eight. There are a great many stories more of his liberality and charity too, he being very generous and noble minded. Having disposed all for his enterprize of Chile, he caused proclamation to be made, that all those who had not some particular employment to stay them at Cusco, should make themselves ready to go along with him. They were all overjoyed at this, he being extremely beloved for his liberality and courtesy; and that they might furnish themselves with arms and horses, he caused one hundred and eighty load of silver to be brought out of his house, (in those days a load of silver was as much as a man could carry,) and twenty more of gold: this he distributed among them all. Those who were willing, gave him bonds to pay him out of what they should conquer in the land they were to discover; for this was the way of these conquerors in gaining to His Majesty this new world, having no other pay but what they could purchase.

The Inga Mango, who was brother to Gualscar and Atagualpa, had succeeded them in the government, as the son of Guayanacapa, who had also many others. This Inga had taken a great kindness for Marshal Almagro; so he gave him, as a companion in his enterprize, a brother of his, called the Inga Paullo Topo, and the high-priest Villacumu; the Spaniards call him Villaoma, or Vilehoma, that they might by their authority not only keep all his vassals from falling upon them in the way, but rather should receive him, and make him presents. The marshal desired these two persons to go before, in company with three Castilians, and make a settlement or habitation at the end of two hundred leagues. The other people, and Juan de Savedra, went by another way; and when they had gone one hundred and thirty leagues from Cusco, they founded the town of Paria. Here the marshal overtook them; and he was likewise assured of the title of Adelantado granted him by His Majesty, with the government of the new kingdom of Toledo, which was to begin from the borders of New Castile; for so they called Pizarro's government. His friends advised him to return immediately, wherever this express overtook him, because there was one come to the city of Los Reyes, with a commission from the king to regulate limits of both governments to each of the Adelantados: but Almagro was so possessed with the ambition of conquering so great and rich a kingdom as that of Chile, that he did not value the land he had discovered, in comparison of what he was to discover, out of which he designed to reward his friends, and the many gentlemen that accompanied him; so he pursued his journey; where it will not be amiss to leave him engaged with the snows, and ill passages of the Cordillera, while we give a visit to the great city of Lima, called otherwise De los Reyes, because it being the head of those kingdoms, we cannot well pass it by.

This city was founded by the Adelantado Don Francisco Pizarro in the year 1555, in a very pleasant plain, about two leagues from the sea, upon a fine quiet river; which being derived by drains and cuts all over the plain, fertilize it so copiously, that it is all covered with several sorts of products, as vineyards, sugar-works, flax, garden product, and other delightful plants: and if there be any thing they want from abroad, it is brought them so punctually, that all their markets are supplied with all manner of delicacies that can be wished for.

For this and many other delights of this city, it happens to most people who live there, that they cannot endure to think of leaving it for any other place; so that it seems an enchanted place, where the entrance is easy, and the getting out difficult. I myself heard the Spanish merchants, who, the year I was there, had sold their goods themselves at Lima, whereas they used to sell them at Puerto Bello, so enamoured of it, though they staid but a little while there, that during our whole navigation they could talk of nothing else; and to say truth, it deserves their praises; for though it cannot

be denied, that some cities I have seen in Europe do out-do it in some things, yet few come near it, take it altogether: and, first, for riches, it is the fountain from whence all the rest of the world drinks; its bravery in cloaths, and magnificency of the court, out-does all others: it is extraordinarily populous; for a father of our company, who had the care of catechising the Negroes, told me, they were at least sixty thousand, and more, that came to confession. They have sumptuous buildings, though outwardly they make no shew, having no tiles; for it never rains all the year round: all the furniture, as pictures, beds, &c. are mighty rich. There are great numbers of coaches, and abundance of gentry; all the inhabitants very rich, merchants of great stocks, tradesmen and handicraftsmen of all professions. But that which is to me most considerable, is, what belongs to the worship of God, and cult of religion; for the cathedral church, and all the parish churches are very sumptuous, and provided of admirable learned men, which come out of that university; of which those of the country are not the least to be valued, having furnished so many preachers and other subjects for all other dignities, even to the highest government. What shall I say of the orders of friars and nuns? I scarce know one order that has not two or three convents in the city, beautiful cloisters, great buildings, and yet greater churches; some after the old fashion; all with burnished gold from top to bottom, as are those of St. Augustin, and St. Dominick: others after the modern way, with curious well-wrought ceilings; as is that of the Jesuits, and of our lady of Mercedes, which are of a very fine architecture. There are eight nunneries, some of which have above two hundred nuns in them. There are besides many oratories, confraternities, hospitals, and congregations. In our convent alone of the Jesuits, I remember there were eight foundations of several kinds, and for people of as many different ranks and estates in the world. The great congregation has few in the world equal to it: the chapel of it is very large, and of a very rich material, covered with silk and gold, and rare pictures, with other rich ornaments belonging to it. There is here great frequentation of the sacraments by monthly communions: the body of Christ is exposed, and the church so adorned with musick and sweet smells, that it is a paradise upon earth. And amongst other pieces of devotion performed by this congregation, there is a great entertainment or treat given once a year at an hospital, which is so magnificent, that it is worth seeing: the same is done in proportion by the other congregations.

This city is the seat of a viceroy, who indeed is a king in greatness and authority, disposing of a vast number of places, commands, and posts of honour and profit. There is likewise a rich archbishoprick of great authority; three courts, or royal audiencias; a merchant court, which decides all matters of trade; a famous university, in which are professors very learned in their professions; three colleges or schools for youth, under the care of the fathers of our company of Jesus, in which are about one hundred and thirty professors or masters: there are every day new foundations for orphans, widows, and to retire women from lewdness: there is the famous hospital of St. Andrew for the Spaniards; and St. Anne for the Indians; all which would require a relation by themselves.

This is what I could not avoid saying about this great capital of Peru; and if it continues increasing as it has done for this first age, it will not have its fellow in the world. The same may be said of Cusco, Arequipa, Chuquizaga, and the great town of Potosi, which increase so, that he who is absent a few years, does not know them when he sees them again; and the reason is, that the veins and mines of gold and silver, which, like a loadstone, have drawn so many people thither, are so far from lessening.

ing, that new ones are discovered every day, and those richer than the old ones; for which reason there comes yearly more people, and among them much gentry, as well as tradesmen of all arts and professions, who most of them settle and increase there.

CHAP. XV.—*The Adelantado Almagro enters into Chile, having suffered extremely by the Way.*

WE left the Adelantado Don Diego de Almagro in a place called Paria, from whence he was to pursue his journey to Chile, as he did in the beginning of the year 1535. He himself going before, ordered Juan de Savedra to follow with twelve horse by the royal highway through the province of Las Chicas, the chief place of which was Topisa, where he found the Inga Paulo, and the priest Villacumu, who presented him with ninety thousand pesos of very fine gold, it being the tribute they used to send the Inga from Chile, and which they were now sending, without being informed of the tragical accidents that had befallen the family; and there he sent back a great many Caciques of the countries he left behind him, and who had waited upon him thither.

The three Spaniards, whom he had sent with the Inga Paulo, and two more who joined themselves to them, being desirous of making new discoveries, and acquiring honour, and withal making their court to the marshal, went before, till they came to a place called Jujuy, which is a place or country where the people are very warlike, and eat human flesh, and who kept the Ingas always in great awe. This boldness cost three of the Spaniards their lives, though they sold them dear. The Adelantado being resolved to revenge their deaths, sent Captain Salsedo, with sixty horse and foot, to chastise those Indians; but they, being alarmed, had called together their friends, and made a fort to defend themselves in, and many pits with sharp stakes in them, that the horses might fall into them; with which, and many sacrifices and invocations made to their gods, they had resolved to expect their enemies. Captain Salsedo found them thus fortified, and being himself inferior in strength, sent to the Adelantado for relief, who sent it him under the command of Don Francisco de Chares; but the Indians then avoided engaging, and resolved to abandon their fort; though, not to lose all their pains, they resolved first to attack Don Francisco de Chares, where they killed a great many, and particularly of the Indians Yanaconas; and carrying off the spoils, they made a safe retreat: the Spaniards returned back to their chief body. Since we mentioned the Yanaconas, it will not be amiss to explain the signification of that word, for the better understanding of what follows.

The Yanaconas were, among the Indians, a people subject to perpetual slavery; and to be known, were bound to wear a sort of habit different from the rest. These seeing the bravery of the Spaniards, and how much they made themselves be feared and respected, began to rise against their masters, and adhered to the Spaniards, hoping thereby to shake off the yoke of slavery; and became cruel enemies to the other Indians. That which this word Yanacona now signifies in Chile, is, those Indians who do not belong to any particular lord; for as to freedom, there is no difference, the king having made them all free alike.

From Jujuy the Adelantado marched with the vanguard, pursuing his journey, leaving the rear to the care and command of Nogal de Ulloa. He came to a place called Chaquana, where he found the Indians in arms; for though at first they were frightened with

with the swiftness of the horses, yet at last they grew so little afraid of them, that they took a solemn oath by the great sun, either to die or kill them all. The Adelantado attacked them, and was in great danger, for they killed his horse under him in the engagement; but he continuing still to fight them, they resolved at last to retire: then he pursued his journey, with his whole army, which was of two hundred horse, and something above three hundred foot; with a great many Indians, as well Yanaconas, as others, who assisted the Inga Paulo. The army being thus numerous, they began to want provisions; and, which was worse, they were without hopes of finding any, there being no place thereabouts that could afford it, the country being a desert, which lasted seven days, all barren ground, and full of salt nitre; and for their comfort, as they descended a hill or precipice, after which they hoped for some relief, they met with the snows of the Cordillera, which was a sight able to freeze the boldest undertaker, considering the dangers and sufferings they were threatened with. Herrera, when he comes to this passage, says, speaking of the bravery of the Spaniards, and their patience in suffering a great deal, which I shall not relate, that I may not be thought to praise my own countrymen with affectation; but I cannot omit some part of it: he says then, that to overcome such difficulties, none could have attempted it, but such as were used to endure hunger and thirst, and to enter into a country without guides, through forests, and over great torrents, fighting at the same time with their enemies and the elements, and shewing invincible minds; marching both day and night, enduring cold and heat, loaded with their arms and provision; being all of them ready to put a hand to all things, even the most noble among them being the first, when a bridge or any thing was to be made, to turn pioneers and carpenters, and cut down trees, by which they were fit for the greatest enterprizes.

The Adelantado seeing the new, and, in all appearance, the insuperable difficulty that attended this journey, did not lose courage, but made a bold exhortation to his men, telling them, that these were accidents that used to befall soldiers, without which no great honour could be gained, nor any of those riches which they sought after; that they should put their trust in God, who would not fail to assist them, since the planting of his faith depended upon their preservation. They all answered cheerfully, that they were ready to follow him to death; and because example is the best rhetoric, he first began to enter into the Cordillera, or snowy mountains, with a detachment of horse going before, that if he found any provisions, he might send a share to the army, which began to faint for want of it. But the more he advanced, he met with nothing but vast deserts, with a wind so cold, that it struck them through; and the passage grew straiter and straiter, till at last it pleased God, that from a high hill they discovered the valley of Copiapo, where the kingdom of Chile begins, where they were received very kindly by the Indians, out of the respect they bore to the Inga Paulo, and afforded them provisions enough to send some to the army which followed. It is not possible to imagine how much they were pressed both by cold and hunger, both Spaniards and Indians; here one would fall into the snow, and be buried before he was dead; another would lean against a rock, and remain frozen, just as if he had been alive. If any did but stop to take breath, immediately a blast of cold air left him fixed and immoveable, as if he had been of iron; and a Negroe, who had a led horse in his hand, did but turn his head, and stop to see who called him, as somebody did, and both he and the horse remained like two statues; so that there was no remedy but to keep moving, for it was certain death to stop a little; but it could not be, but people so weary and so weak must stand still sometimes; and therefore they lost a great many men, strowed up and down the mountain.

Garcilasso says, there died ten thousand Indians and Negroes; of the fifteen thousand which went with the Inga Paulo, only five thousand escaped; for being all natives of Peru, and not having ever felt such cold, for which they were totally unprovided with cloaths, they died apace; the Spaniards being better provided, endured less; and yet Garcilasso says, they lost above a hundred and fifty men, and thirty horses, which was a great loss; others lost their fingers and toes, without feeling it. Their greatest sufferings were in the night-time; for they had no wood to make fire, and the Indians eat the very dead bodies out of hunger. The Spaniards with all their hearts would have eat the dead horses, but they could not stop to flea them. At last the provisions, sent them by the Adelantado, met them; so they passed the rest of the way pretty well. When they came to the valley, the Indians made much of them, where we will leave them, to see how others, that came after the Adelantado, pass the mountain.

CHAP. XVI.—*Others pass the Cordillera.—What happened to the Adelantado in Copiapo :—His Return from Chile :—His Misfortune and Death.*

I DO not find clearly the time of the year in which this army passed the Cordillera: it is certain it could not be in the midst of summer, nor in the heart of winter, because not one of them would have escaped, since the first high wind would have overwhelmed them in the snow; therefore they passed it, either in the beginning, or the end of the winter; and most probably it was at the entrance of the winter; for if it had been at the going out of the winter, those who followed would not have run so great a hazard.

The first of these was one Rodrigo Orgonnes, who was left by the Adelantado in Cusco, to raise men and follow him, as he did. He lost his nails, and would have lost his fingers, if he had not taken his hand off the pole that held his tent up: others lost their eyes, their ears, and many their lives; particularly all those who were in one tent, which a storm rising carried up, and in the morning they were found all dead in the snow: they lost also six and twenty horses.

The next who passed after Rodrigo Orgonnes, was one Juan de Arrada, who brought the Adelantado the king's dispatches, and his commission for his government, whom we left in Copiapo; and it will not be amiss to see what befel him there, before he received his commission, and saw his friends. The first thing he did in this valley, was a work of charity and justice, in favour of the true lord of that land, and was not in possession of the government, because he was left a minor, under the guardianship of his uncle, who not only did not think of putting him in possession, but contrived to take his life, which he would have effected, if he could have got him into his hands; but the subjects, more loyal than he, had hid him out of the way. The Adelantado being informed of the truth of this matter, and being entreated by the wronged Prince, restored him to the possession of his government, putting the tyrant to death.

Before this happened, at their first arrival at Copiapo, the Inga Paulo took care to look out for some gold in that little province; and in one day having got together the value of above two hundred thousand ducats, he presented the Adelantado with it, in the name of his brother, the Inga Mango; which gave the Spaniards great cause of admiration, seeing that in one village, and in so little time, so much gold had been found, gathering from this, how prodigiously rich the country must be; and therefore Almagro was content to think all his pains well taken that he had been at to come into it.

The Inga Paulo finding his present so well received, being desirous to make his court, got from the neighbouring parts three hundred thousand ducats of gold more, which he presented to the Adelantado; which gave him such joy, to see that so rich a country was fallen to his lot, that he caused all his people to be assembled, and pulling out all the bonds and obligations made to him in Cusco, for the gold and silver which he had there lent them, he cancelled them all, one by one, declaring to his debtors, that he freely forgave them their debts, and was sorry they were not greater; and not only so, but opening his bags of gold, he began to use great liberalities; which so pleased them, that they forgot the dangers they had gone through, every one promising himself vast riches from such a conquest. Francisco Lopes de Gomara, who writes this history, says, that it was a liberality becoming a great prince, rather than a private foldier: but he adds, as a consideration of the little stability of human affairs, and the prosperity of this world, that when he died, he had nobody to give a pall to cover his coffin.

But let us not afflict the reader so soon with the memory of that lamentable tragedy; let us rather follow this great captain in his good fortune. As he went further into the country, he was respected and treated as if he had been the Inga himself, in all the places he came to; but when he came to a nation called the Promocaes, which was the limits, beyond which the kings of Peru could never extend their empire, he found the same resistance as they had done. The Adelantado perceiving this, demanded succour from the Inga Paulo, who gave it him, by calling in the Inga's garisons of the neighbouring frontier; and so the war began.

Here the Spaniards met with their match, and began to experience that the conquest of this part of America would not be compassed by their bare appearing with their horses, dogs, and guns; or that a kingdom might be got by taking a king prisoner, and separating his army to their purposes, and so remain absolute masters of the field; for here they met with a nation, who, though they admired their horses, and were surprized to see them, yet the greatness of their courage overcame that surprize; so they met and engaged them with great valour, and many were killed on both sides. The Spanish blood, which used to be so little spilt, was here shed in abundance; and from that time to this, the slaughter of them has not ceased, so as to make either side safe.

However, the valour of the Spaniards, and the advantages they had over them by horses and guns, was such, as they might well depend upon, which made them conceive the conquest of Chile to be a work of about two years at most; as it is probable it would have been, if the divisions between Almagro and Pizarro, and his brothers, had not cut the thread of that enterprise, as it did that of their own lives; for they perished by one another's hands, upon points of contest about jurisdiction.

About this time the Adelantado being engaged with the Indians in a bloody war, Rodrigo Orgonnes arrived with his Spaniards, and so did Juan de Arrado, with the King's royal patents, and a commission for the government of a hundred leagues of the country; which was just as if a deluge of water had been poured upon the fire already lighted of the war with the Promocaes, Cauquenes, and Pencos, who were the nations that had withstood this invasion. As for the Indians, they pretended to no more than to defend their country, and their liberty, from foreign invaders; and the Spaniards found themselves called away by more earnest motives of interest, and so turned another way. Not but that there were different opinions about what was to be done; some thought that it was better to settle where they were, the heavens and earth being both the best that they had yet discovered, and its riches such as they were witnesses of; others

others were of opinion to be content with what they had discovered, without exposing themselves to new dangers, and the accidents of war. But those who brought the King's commission, insisted extremely, that the Adelantado should go to enjoy the effect of the King's favour to him; and, above all, that which moved Almagro most, was the jealousy of seeing the Pizarros masters of Peru: to which might be added, that if he did not take possession of Cusco, by virtue of the King's patent, he might be in danger of remaining, at last, without any title to any thing he had. In this confusion of motives, the Adelantado stuck to the worst, as it happened, since he lost his life: he had, it seems, arrived to the top of fortune's wheel; and it is the same thing with her to stand still, and to begin to go down; which he did, till he tumbled quite to the ground, and had his head separated from his shoulders.

The world seldom performs its promises, otherwise who could have told this great and generous man, that he should fall by those hands to which he had lent his? The Pizarros would not have been at that height, if the frankness and friendship of Almagro had not assisted them from the beginning with his fortune and good counsel; but nothing of all this was sufficient to save him from death by their procurement. The differences between them grew to that height, that they engaged in a battle against each other; in which the Pizarros were conquerors, and Hernando Pizarro, the chief of them, ordered Almagro to be beheaded, being no ways touched by their antient friendship, nor the submissions and tears of Almagro himself, though a venerable old man, begging his compassion with a body full of honourable wounds; but as if he had been a statue of marble or brass, he shewed no signs of compassion. It is granted that Almagro did ill, to leave the conquest of Chile, so well begun, and where he might have settled himself and his friends to such advantage, to go back to Cusco, to govern there by force, in case the Pizarros should oppose him; but they also were much to be blamed, in not coming to some agreement with their antient friend and companion; but they are inexcusable in shewing so much cruelty, as to put him to death: accordingly all their own prosperity seemed to end with his, and to turn to a lamentable tragedy, in which they died by one another's hands, as may be seen more at large in the already cited authors. For me, it is my business to pursue the conquest and settlement of Chile, which is my theme.

## BOOK V.

### OF THE CONQUEST AND FOUNDATION OF THE KINGDOM OF CHILE.

CHAP. I. — *The Governor Pedro Valdivia enters Chile:—He conquers and settles that Kingdom, and is the first that enters as far as Mapocho.*

THE more I draw near to the relating the settlement made in Chile by its first founders and captains, who reduced that kingdom to the obedience of Their Catholic Majesties, and to the knowledge of God, the more I miss those papers and records, which

which being so far off, I cannot have the help of in describing the particulars of the events which were very memorable at the first entrance of the Spaniards. I must therefore make use of such passages as I shall find up and down in the general histories of the Indies; and this will refresh in me the memory of what I have seen or learned by others; and yet I must own the knowledge and information the reader will have from hence, will be but scanty and short, such as I should have hardly attempted to publish without this apology; and desiring my readers to accept of this collection for the present, till the complete history of Chile does come out, I having left men most eminent in their profession employed in it when I left those parts.

The Adelantado Almagro being returned in the year 1537 to Cusco, Colonel Pedro Valdivia desired from the Adelantado Francisco Pizarro leave to pursue the conquest of Chile, since he had power and commission from the King to grant it. He promised not to return till he should have completed the subjection of it, and reduced it to the obedience of the crown and God Almighty. The Adelantado, who had it in his thoughts, because of the fame of its great riches, to follow the conquest of Chile, considering this gentleman to be one of the bravest captains that had come to the Indies, having born arms in Italy and Peru, and given a very good account of all that he had undertaken, chose him for this enterprize in the year 1539, giving him a year's time to prepare all things, that he might set out, as he did, in the year 1540. I do not say any thing of the particulars of his journey, nor of the people he carried with him, because I am not where I can have a distinct information; only that in which all agree, is, that he got together a good body of men, both Spaniards and Indians; for these last relating what riches the Incas used to draw from people who owned his empire in those parts, animated every body to this enterprize; and Valdivia seconding, with address, these impressions, made a good army, with which he set out from Peru.

They had almost perished with cold, hunger, and other inconveniences; yet at last they arrived, and advanced at first with little difficulty; but as they went, engaging further in the country, still they found more opposition: they first came to the valley of Copiapo, which signifies the seed of Torquises; for there is a rock of them, of so great a quantity, that they are grown less valuable upon it, as Herrera says: it is a blue stone, which makes a very good shew. And since now we enter this kingdom with more advantage, and upon a steady foot of settlement, it will not be amiss to describe the valleys and places where the cities were first founded, and the other settlements, that we may not be obliged to look back with an useless repetition.

The valley of Copiapo is the first of the inhabited valleys of Chile, though the best part of the people are Indians, with a few Spaniards, out of which one is the Corregidor, who is named by the governor of Chile. The land is of itself very fruitful, and is made more so by a pleasant river, which runs about twenty leagues in it before it empties itself into the sea in a bay which makes its harbour. Here grow all sorts of the natural fruits and grains of the country, and of Europe; the maize yields above three hundred for one, and the ears of it are almost half a yard long, as Herrera and other authors relate. Though I am not informed as to the particular of Valdivia's reception here by the Indians, yet I suppose it was without much contradiction; because these people were already accustomed to the foreign yoke of the Incas, and had already seen and received the Spaniards out of respect to the Inga Paulo, who accompanied Almagro, who gave them their lawful Cacique, or prince, as we have seen. They had the same facility in the valleys of Guasco, which is about five and twenty or thirty leagues from Copiapo, and that of Coquimbo Limari, and as far as Quillota. Here the Indians took arms, and opposed the Castilians vigorously; engaging them almost daily, as people  
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that came to conquer and subdue their country. The Governor Valdivia penetrated as far as the valley of Mapocho, though with the loss of many of his men. He found this valley extremely well peopled, because of its breadth, fertility, and pleasantness, being thoroughly watered by the river of that name, which, after having run some leagues, sinks under ground, does not lose itself entirely, but appears more nobly, and comes out with a more powerful stream two or three leagues further, being much bettered in its waters, which, from muddy, are turned clear as chrystal.

CHAP. II. — *The Foundation of the City of St. Jago in Mapocho.—The Description of its Situation.*

TOWARDS the east, the great Cordillera, or Snowy Mountain, is a wall to this valley of Mapocho, and is in winter all over white, but in summer by spots here and there: to the west it has the ragged rocks of Poñangue, Caren, and Lampa, whose foot we may say is shod with gold (for that which is found in its mines is so fine, that a great deal was got out of them). Neither is this valley uncovered on the sides; for to the north and south it is environed by other mountains, which, though they do not approach the Cordillera in height, yet are high enough to make a circle about this valley, which in several of its rocks produces gold: it is, in its diameter from the Cordillera to the hills of Poñangue and Caren, five or six good leagues, and from north to south, which is from the river Colima to that of Maypo, seven or eight leagues more; so that its circumference is between 26 and 28 leagues, or more, if we go down as far as Francisco del Monte, which is a place of most pleasant shady woods, where all the timber is cut for the building of the houses.

In this valley, two leagues from the great Cordillera, by the side of the river Mapocho, God has planted a mountain of a beautiful aspect and proportion, which is like a watch-tower, upon which the whole plain is discovered at once with the variety of its culture in arable and meadow; and in other places woods of a sort of oak upon the hills, which afford all the fuel necessary for the uses of life. At the foot of this mountain, which may be two miles about, the Castilians found many habitations of the Indians, to the number of eighty thousand, as authors report; which Pedro de Valdivia observing, and guessing from thence, that it was the best part of the whole valley, he resolved to found here the city of St. Jago, which he began the 24th of February in the year 1641. It stands in 34 degrees of latitude, and longitude 77, distant from the meridian of Toledo 1980 leagues. The form and ground-plot of this city yields to few others, and is superior to most of the old cities of Europe; for it is regular, like a chess-board, and in that shape, and that which we call the squares for the men, of black and white, are in the city called *Isles*, with this difference, that some of them are triangular, some oval, some round; but the square ones are all of the same make and bigness, and are perfectly square: from whence it follows, that wheresoever a man stands at any corner he sees four streets, according to the four parts of the heavens. These squares at first were but of four large houses, which were distributed to the first founders; but now by time and succession of inheritance, they have been divided into lesser, and are every day more and more divided; so that in every square there are many houses.

Towards the north, the city is watered by a pleasant river, till it swells sometimes in winter, when it rains eight, nay twelve and fourteen days without ceasing; for then it overflows, and does great mischief in the city, carrying away whole houses, of which

the ruins may be yet seen in some places; for this reason, they have raised a strong wall on that side; against which, the river losing its strength, is thrown on the other side, and the city thereby freed from this inundation.

From this river is drawn an arm on the east side, which being subdivided into as many streams as there are squares, enters into every one of them, and runs through all the transversal streets by a conduit or canal; and bridges are every where, as necessity requires, for the passage of carts: so that all the houses have a stream of water, which cleanses and carries with it all the filth of the city: and from this disposition of water, it is easy to water or overflow all the streets in the heat of summer, without the trouble of carts or other conveniences, and that without any charge. All these rivulets empty themselves to the west, and are let into the grounds without the city, to water the gardens and vineyards that are there: which being done, it is let into other fields, sowed with all sorts of grain, and then returns to the great river. The inhabitants do not drink of this water, though pretty good; but it serves to water horses and other animals; therefore they fetch water from the river for their own drinking, or draw it from wells, which yield very good, and very cool: those who are yet nicer send to the springs and fountains, of which there are many in the neighbourhood, which yield most excellent sweet water. The streets of this city are all of the same bigness and proportion, broad enough for three coaches to go abreast easily: they are paved on each side near the houses, and the middle is unpaved for the passage of carts. There is one street that is of an extraordinary breadth, and in it fifteen or sixteen coaches may go abreast; this is to the south, and runs east and west the whole length of the city: this is called La Cannada; and though at first it did not extend beyond the city, yet now it does, and has many buildings and gardens; and there is the church of St. Lazarus: but there are several squares built further which inclose in again, and so it is in a good situation.

This Cannada is the best situation of the whole place, where there is always an air stirring, so as the inhabitants in the greatest heats of summer can sit at their doors, and enjoy the cool; to which may be added the agreeable prospect it affords, as well because of the bustle of carts and coaches, as of a grove of willows which is watered by a little rivulet from one end of the street to the other: it is besides adorned with a famous convent of St. Francis, the church of which is all of a white free-stone, all square stone finely cut, and a steeple of the same at one end of it, so high, that it is seen a great way off by those who come from other parts. It is divided into three parts, and has its galleries; the uppermost is a pyramid: from it one may discover on all sides lovely prospects, which delight the eye extremely, and recreate the mind.

### CHAP. III. — *Of the other Edifices and Churches of the City of St. Jago.*

THIS city has (beside this street called the Cannada, which might afford many places, such as are in great cities) another very large one, named of St. Saturnino; it has likewise the place of Sancta Anna, where has been lately built a church dedicated to that glorious saint. There is also a place called La Placera de la Compania de Jesus, where the front of their church makes a figure, and is a retreat or tabernacle upon the day of the procession of Corpus Christi. Most of the other religious houses have their places before the great porticos or entrances of their churches: but above all, is the place called the Principal Place, where all the business of law and commerce is driven. The two sides of the place that are east and south have buildings after the old way, though they

they have made very good new balconies to them, and large windows, to see the bull-faests and other public diversions which are made there. The north side is all upon arches of brick; underneath which are the scriveners and public notaries, as also the secretariats of the royal Audiencia, and the town-house: and over-head are the royal lodgings, with balconies to the place, with the great halls for the meeting of the town-house officers; and in the middle are the audience-rooms of the royal chancery, with their galleries to the place: and, lastly, the royal apartments, where the royal officers are lodged; and the rooms necessary for the treasury and chamber of accounts, and lodgings for the officers.

The side that lies to the west has in it, first, the cathedral church, which is of three isles, besides its chapels, which it has on each side: it is all of a fine white stone; the chief isle, or that of the middle, being upon arches and pillars of an airy and gallant architecture. The remainder of this side to the corner is taken up with the episcopal palace, which has a very fine garden, and noble apartments both high and low, with a gallery supported by pillars, which answer the Place; which, if it were equally built on the east and south sides, would be one of the most beautiful and agreeable places that can be; for it is perfectly square, and very large, with a due regard to the whole plot of the city. I doubt not but in time the two old-fashioned sides will be pulled down, and others built on pillars and arches proportionably to the other sides.

The greatest part of the buildings, (except the public ones, which are of a rough stone, but very hard, which the mountain of Santa Lucia affords, and is within the city, and some great gates and windows which are of mouldings of stone or brick,) that is to say, the ordinary buildings, are of earth and straw well beaten together, which is so strong, that I have seen great openings made in a wall, to make great gates after the modern way, and yet the wall, though a very high one, not feel it, though the house was none of the newest, but almost as ancient as the city; for the sun bakes and hardens the earth and straw so well together, that I have seen a piece of those walls fall from a high place, and not break in pieces, though so big that a man could not carry it. At present, the houses that are built are of a better form, higher, and lighter than at first, because the first conquerors were more intent upon getting gold, and spending it in sumptuous treats, and high living, with splendour and liberality, than in building palaces, as they might have done, by reason they had many hands, and stone hard by.

In matter of buildings, this city, as most others of the Indies, may brag, that it imitated Solomon, who began with building the temple and house of God before he built his own palace. So the Spaniards have done all over the Indies, in this new world, inheriting this custom from their ancestors of Old Spain; for I remember, that travelling in Castilla, I made this observation, that let the place or village be never so small, yet it has a good church; and even where the houses were poor, and like dove-coats, the churches were of free-stone, with a steeple of the same; which gave me matter of edification, considering the piety of the faithful on this occasion.

Just so the Spaniards of the Indies began first to erect churches, with so much application, that they do not seem buildings made within these hundred years; but rather such as one would think they had inherited from their ancestors, or had been built by the Gentiles; and yet there is not a church in all the Indies, which they have not raised from its foundation. We have already spoke of the cathedral of St. Jago; and much more might have been said of its strength and beauty, and the ornament of its altars and sacristy. There are besides several other fine churches. That of St. Domingo, though not of stone, is built upon arches of brick, with a great many fine chapels on

each side, particularly that of Nuestra Sennora del Rosario, which is all painted and gilded, with handsome knots and festoons. The sacristy is full of ornaments of brocade of gold and silver, and embroidered silks of the same; a great deal of plate for the altar, and mouldings of the altar-piece, all gilded. But this is nothing to the cloister, which by this time is made an end of, and is of a fine architecture, two stories high; and the lower, where the procession goes, is adorned with exquisite paintings in the four corners, where are four altars all gilded, and light as a bright flame: the apartment at the entrance is also finely set off with pictures of saints of the order, of excellent hands.

The convent of St. Francis may be called a town for its largeness: it has two cloisters for the processions; the first is upon arches of brick; and the second, which is the largest, very finely painted, with the story of the life of the saint compared with passages of our Saviour Jesus Christ's life; and over, are all the saints of the order; and at each corner four great pictures, with four altars, which serve for the processions and ceremonies of holidays.

The church is of free-stone, and all its altars gilded on the inside; but above all, the seats of the choir are a piece of rare workmanship: it is all of cypress, by which means there is always an admirable smell. The first row of seats reaches, with its crowning or ornaments, to the very roof, all of excellent architecture, with its mouldings, bases, cornishes, and other proportions.

The church of our Lady of the Mercede, is also built upon brick arches. The great chapel is admirable for the thickness of its wall, and the beauty of ceiling, which is all of cypress wood, in the form of a duomo, or cupola. The great cloister is begun upon so fine a model, that to finish it so, will require the care and application of those who have the government of that convent. The situation of this convent is the finest and noblest of any, except that of St. Francis: it has the advantage of receiving the river first, whereby water is so plentiful in the convent, that they have been able to make two mills to grind corn enough for the convent, and to give away.

The convent of St. Augustin is but newly begun; but its church, all of free-stone, will outdo all the others for beauty: it is of three isles, and in the midst of all the hurry and business of the town.

It is not many years that the sacred order of the blessed Juan de Dios has been settled in this kingdom; and in a little time those fathers have done a great deal; for, having taken upon them the care of the royal hospitals, they have reformed them, assisting the sick with all neatness, care, and diligence, and have added several large buildings. They are much helped in this by the devotion the people have for their founder, to whom they address their prayers and vows in their wants and necessities, and not in vain, for they feel great relief by his intercession.

The college of the company of Jesus has not been able to build the inside of the house, because from their first foundation the fathers have attended only the finishing of the church; which is now compassed, and is without dispute the finest next to the cathedral. It is all of a white stone, the front of an excellent architecture, and over the cornish a figure in relievo of a Jesus. The great chapel has its cupola and lanthorn all adorned with festoons and knots of two sorts of wood, white and red, which makes a beautiful shew.

The covering or roof is all of cypress, inlaid with all sorts of flower-work, and divided into five parts; the middlemost is a compofure of all sorts of figures, which seem a labyrinth to those who see it from the ground, and, with a noble cornish that runs round, gives a delightful prospect.

The architecture of the altar, and the tabernacle for keeping the holy sacrament, are valued at a prodigious sum. The altar rises to the top of the church; and because, according to art, it ought to have reached from wall to wall, which it does not, the empty places are filled up with two reliquaries on each side, which join to the altar: this being all gilded, seems, when one first comes in, to be one plate of gold.

CHAP. IV. — *Of the Civil Government, both Ecclesiastical and Secular, of the City of St. Jago; and of the Nature and Properties of its Inhabitants.*

GOVERNMENT is the soul of the body politic; and therefore, at the same time that the city of St. Jago was founded, the corporation was settled to administer justice, without which no government can stand. The corporation consists of two ordinary Alcaldes, an Alferes royal, an Alguazil mayor, a general Depositarius, six counsellors, or aldermen, chosen every year, half out of the gentlemen called Encomenderos, and half out of the inhabitants of the place, who have bought that privilege for themselves and their descendants. Of the two Alcaldes, he that is of the Encomenderos has the precedence and first vote, and the inhabitant the other: they divide the year between them by six months. There is a president to the assembly, who is always corregidor, and lieutenant to the captain-general; and it is a place of great honour: and though it be of more charge than profit, by reason of the expence belonging to it being unavoidable, yet it never fails of pretenders, because of its authority, and the respect paid to the office. There are chosen yearly, with the two Alcades, two others of the holy fraternity, or Hermandad, whose jurisdiction is without the bounds of the city, as is practised in other parts. About thirty years ago there was founded a royal chancery in this city, which consists of a president, four Oydores, or counsellors, and two fiscals; one who is the ordinary, and another, who has been added within these four years, and has the same honours, who has the protection of the Indians, and the matters belonging to the holy Cruzada. After these is the Alguazil mayor de Corte, who has also the magistrate's habit, and a chair of state: then are the officers called the chancellor, secretaries, referendaries, and others, as in such courts. There is no appeal from the sentence of review given in this court, but to the royal council of the Indies; and then there is a certain sum, below which there is no appeal neither. It cannot be denied but the majesty of this tribunal has very much adorned the city; though there want not those who lament the hindrance it has given to its riches and increase, which would have been more considerable, if the inhabitants had continued in their first simplicity, cloathing themselves with the manufactures of the country, and avoiding all those pompous liveries which are now in use; for those who before might walk in the public place in a plain dress of the country, and be honoured and respected, must now appear in silk, or Spanish cloth, which yet is dearer than silk, for a yard of it costs sometimes twenty pieces of eight. Any gentleman of estate cannot now appear decently in public without many servants in rich liveries; and within a few years they have brought up a vanity of rich parasols, umbrellas, which at first were only used by the people of the greatest quality; and now nobody is without them, but those who cannot compass them; and though it is a thing of great gravity, and very useful to preserve health, yet it increases those forced expences used in great cities; for this, and some other reasons, some were of opinion, that it would have been better for the city and kingdom, that they had continued to govern themselves without this court of a royal Audiencia, as they did formerly:

merly: but, to say truth, they are in the wrong; for, first, there are many cities in the Indies, where, without a court of this nature, I have seen vanity thrive in liveries and superfluous expences as much as any where. Secondly, because, abstracting from passion and interest, which commonly do mislead men in the administration of justice, it cannot be denied but that the sovereign authority of this tribunal is of great weight to maintain the quiet of the kingdom, by keeping an even hand in the administration of justice, and not suffering that the tyranny some affect, either by reason of their preferments or riches, should stifle right reason, or oppress innocency, which has not learned to court and flatter.

Thus a royal Audiencia is a bridle to vice, a reward to virtue, a protection to the poor, and a maintenance of right and reason; and this was the intention of our catholic monarch: for this reason did he erect this court, which is the more necessary, because it is at that distance from the royal presence, and so hard that the cries of the poor should reach his ears; for if sometimes they do arrive to his court, it is so faintly, that they can scarce be heard: for this reason, those who have the choosing and sending the king's officers into such remote parts, ought to be the more careful to provide men of christian principles, and well intentioned, as indeed they have been, and are still in that kingdom; and it is no more than is necessary, for a good example to those new christians the Indians.

This royal Audiencia is the cause likewise, that much gentry comes from Europe to the Indies, and so help to people them, and to continue the good intercourse between Spain and that country, which is good for both. It cannot likewise be denied (though that be but as an accessory), that the presence and assistance of this royal tribunal at all public feasts and exercises, is of great countenance to them, and particularly to the literary acts and commencements, whereby learning is encouraged; and those who employ themselves in that honourable study have a reward before their eyes, hoping to attain to be advocates, referendaries, fiscals, and counsellors: for in the West-Indies those places are all very honourable, and particularly in Chile, where the salaries are larger than in other parts, and yet provisions are cheaper; so that it is easy to lay up a good part of one's revenue. Besides these tribunals, there are others, as that of the chamber of accounts, or treasury, for the management and administration of the King's revenue; these officers do likewise visit the ships that come in and out at the port of Valparaiso; their offices are very honourable, and of great profit, and they are in the King's gift, as those of the royal Audiencia are.

The affairs of justice, and things belonging to good government, are under the Audiencia; but those of war and preferments belong to the governor, of whom we shall speak in a proper place.

The bishop is absolute lord of all the church-government; and though the bishopric of St. Jago is none of the richest of the Indies, because all the product of the earth is so cheap, and by consequence the tithes do not rise high, yet this very abundance is part of the riches of the bishopric; for by this means the bishop's family and expences are the easier supplied, and he may keep more attendance, and yet lay up a good part of his revenue; whereas other bishoprics, though richer, have enough to do to keep up the decency of their dignity. There is a numerous clergy, who make a great *cortege* to the bishop upon certain public days; and when he is received the first time, and takes possession, the ceremony is very great; for part of the royal Audiencia, the chapters, all the militia, horse and foot, with the people, go out to meet him; so that it is a day of great pomp.

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The chapter of the cathedral is a venerable body of men, in which the King alone provides the vacancies by virtue of his royal patronage, and the concession of the popes; so that there is not, as in Spain, the bishop or the pope's month; but in the Indies all dignities of cathedrals, even to the very parish priests, are all at the King's nomination, but with some differences; for the dignities are bestowed in Spain itself, by the advice of the council of the Indies; but the cures or livings of parish priests, the King does bestow them by his governor or president, who exposes a public edict, that all opposers for the vacancy of such a benefice may come and oppose the examination; and of these, the bishop presents three to the governor general, to chuse in the King's name.

The holy tribunal of the inquisition, which is in Lima, serves for all the whole South-America; so that in Chile there is only a commissary, with his officers and familiars, who accompany him in all public acts, and form a tribunal with great authority. There is likewise an officer of the Cruzada, called a commissary, which is likewise a post of great authority; and the day that the bull is published, all the orders of the religious are bound to be at the procession.

Let us conclude this chapter by saying something of the natives who are born and bred in this city: they are generally ingenious, and of good parts; and those whose inclination is to learning, succeed very well; but they are naturally more inclined to war, very few of them taking to other employments, either of trade or business; and they who, from their infancy, or by a strong inclination, do not take to learning, seldom succeed, and easily leave it, if put upon it, to follow the sound of a drum or a trumpet, and never are quiet till they get to be enrolled as soldiers, being much better pleased with the liberty of a soldier's life, than with the discipline of the schools.

They are much addicted to horsemanship: and I have often seen, that to strengthen a child that can hardly go, the best way is to set him on horseback; this makes them prove dexterous horsemen, and bold. And it is a common opinion and a known experience, that for horse, one of the country is better than four from abroad: this has been sufficiently proved in the course of so long a war as that which has busied that kingdom.

They are naturally liberal, good-natured, and friendly, particularly if they are treated honourably, with due regard: they are pretty stubborn and wilful; to be led only by fair means, and then they are docile and tractable; but if force is used, they do worse and worse. This we the fathers of the society do often experience in our colleges; so we are obliged to lead them by sweetness and emulation, rather than by rigour and harshness.

#### CHAP. V.—*Of the Riches, Militia, Studies, and Increase of the City of St. Jago.*

THIS city, to which the King has given the title of Most Noble and Loyal, is the capital city of Chile, and one of the best in the Indies, next to those two royal ones of Lima and Mexico, which do exceed it in sumptuous edifices, in people and trade, because they are more antient and nearer Spain, and for a greater passage for the people that come from Europe, and free from the tumults of war, which is a canker that eats deepest into great cities and kingdoms; and it is no small proof of their force, to be able to maintain so long a war.

This city was founded one hundred and four years ago; and it had all that while sustained the heavy load of a long and stubborn war, which the native Indians have made upon the Spaniards without any intermission; in which its inhabitants have either  
always

always been in arms, or sending many horses and provision to the camp; a calamity, which, far from letting it grow to what it is, ought to have kept it down from the beginning: nor is it of a small consideration, for the growth of other cities in the Indies, to reflect, that they being in the way, and, as it were, upon the passage of other places, many new comers have settled there, who perhaps at first were bound for other countries, or at least were indifferent where they stayed, and took up with them. It is otherwise with the city of St. Jago, because the kingdom of Chile being so remote, and the last of all the Spanish dominions, it is the *non plus ultra* of the world: so that nobody goes thither by chance, but on purpose, and upon some design or particular interest; for which reason the number of strangers is little.

But the city is so good and convenient to pass away life with ease, that notwithstanding these disadvantages, it is so encreased, that it astonishes all who see it, few cities of the Indies outdoing it in finery, particularly as to the women (it were to be wished it were not to that excess); for all things coming from Europe are there prodigiously dear; and this causes many families to run behind hand. Who should see the place of St. Jago, and that of Madrid, could see no difference as to this point; nay, as to the women, the finery exceeds that of Madrid; for the Spanish women, scorning to go to service, are all ladies, and love to appear as such, as much as they can, and the emulation between them about fine clothes, jewels, and other ornaments for themselves and their servants, is such, that let their husbands be never so rich they want all they have, particularly if they are of the nobility, to satisfy the pride of the women.

As to the militia of the city, the first part of it is the company of inhabitants, Encomenderos, and reformed captains, who have no other commander but the governor himself, or his deputy; after that, there are two or three troops of horse, and three or four companies of foot, all Spaniards. These often muster on holidays, and are exercised in the use of their arms; and sometimes there are general musters before the Oydores and royal officers, where their arms are examined; who also note them down, to know what strength they can raise upon occasion, punishing such as do not keep their arms and horses fit for service. By this diligence they are very ready at their arms, and the exercising of them proves an entertainment for them and the whole city: for very often, in the public processions, one or two of these companies use to come out, and make a salvo for them; and in the holy week there always attend a troop of horse, and a company of foot, who guard the street, where the processions of the whippers go to keep the peace, because of the Indians, who use to take that time to make some risings, the Spaniards being wholly taken up with their devotions.

The days in which this militia makes the best show, are, when the bishops come to be received, because they make a lane from the entrance of the city to the great place of it, where they form their battalion; and the concourse of the people uses to be so great, that though the place is very large, there is scarce room for them.

And since we are upon that subject, we cannot omit to observe that which is worthy of admiration, and that is, to see how it is increased in the number of Spaniards within these forty years. It is probable, the same has happened to the other cities of the Indies; but this has had a continual drain, by supplying soldiers for the war with the Indians, where many perish, and few return. I remember that I have heard say, that one of our fathers, newly come from Europe, and coming to our college, where he saw but few people in the street, cried out,

Apparent rari nantes in gurgite vasto.

By which he meant to signify, the disproportion of the inhabitants to the bigness of the city; but now that very street is so full of people, that all hours of the day, and some of the night, it is extremely frequented; for there have been built many houses for handicraftsmen and shopkeepers on both sides of it, because trade is considerably increased.

I can myself affirm, that I observed as great an alteration in a much less time, as well in people as in building; for having been absent but eight years, I confess, that at my return I scarcely knew the place again; for I found several ground-spots where there was not a house built upon, with very good buildings; and those which I had left built were altered to the better, with more and higher apartments; and the courts, which were very large, were considerably straightened by other buildings; and yet the plot of the city was larger too; so that being at first built at the foot of the mountain we have spoken of, to the west of it, I found it extended as much to the east, and the same proportionably to the south and north, and it increases daily towards the river, and the Cannada.

There was, when I left the place, about a dozen shops of good retailers, and at my return there were above fifty; and the same proportionably as to the shops of shoemakers, taylors, carpenters, smiths, goldsmiths, and other handicraftsmen, whom I found also more curious and exact in their professions; and emulation has produced very good pieces of workmanship in gold and silver, and carvings in wood, gildings, paintings, which have adorned the churches, with those which have been brought from Europe, and the particular houses; so that in some houses alone, there are more things of that kind now, than there were in all the city formerly. Some complain, that there are not now such rich and powerful men as there were at first; and that is true: but it does not follow, that the generality is the worse for that, but rather otherwise; for the lands and houses which belong now to ten families were antiently in one; it being certain that several of the heirs of that man have attained to as great riches as he himself had; or at least it is apparent, that the stock of all those who have shared the inheritance far exceeds what was left them: so that supposing that some were formerly richer, yet the riches are more in the land; which is also clear to any that shall consider the houses, possessions, and other improvements made since that time; for now there is scarcely room for the people, whereas before there was not half people for the room that was for them; which is also visible in the country round about, where farms that could hardly find purchasers, and were little worth, are now so risen in their value, that the smallest cost great sums; and this rage of purchasing is such, that most of the causes in the royal Audiencia are about titles; for the antients, who took possession of the land, thought, that if they had a little footing in a valley, it was all theirs; but those who have come since, have purchased by virtue of new titles, and taken new possession; which makes so many law-suits.

There is not formed a regular university in this city, because that of Lima served for all the neighbouring kingdoms and provinces to take their degrees: but when in time the going to Lima was found so chargeable, and the journey, which is of three or four hundred leagues, so troublesome, there were bulls obtained of the pope, for the orders of St. Dominic and the Jesuits, to have the privilege of conferring the degrees of bachelor, licentiate of arts, as also doctors in divinity, in the kingdoms of Chile, Granada, Ruito, Chuquizago, Tucuman, and Paraguay.

The effect has shewed how necessary this favour, and how important this privilege has been; for this incitement to honour has caused a general application to learning; for the priests and curates are already great proficient in study, and so more capable

of taking upon them the cure of souls; and those who betake themselves to a religious life, are better qualified to serve their orders, and be an honour to them, as many of them are; and it does not a little contribute to the value of them, to see the great solemnity used at the reception of the several graduates. And in this, as well as the rest, I think our city of St. Jago is not inferior to any: for, first, all the acts are held with great concourse of all the learned, and very often the bishop honours them with his presence, and so do the president of the Audiencia, and the chief of the town-government, to whom are dedicated the subjects of the extempore readings, according to the constitution of the university, which are given out with great fidelity, dividing the subject into three parts, for the graduate to dispute upon in presence of a great concourse of people; and the severity is indispensable in this and all other examinations, for the different degrees which are given by the bishop, by virtue of an approbation first given him by the father rector and the professors, as the bull directs; according to which there is no obligation of giving any treat; but yet that the doctors may assist with more pleasure and diligence, there has been introduced a custom of giving some moderate ones, besides gloves, which were allowed instead of it; but some out of ostentation give both treat and gloves. Besides this, there has been introduced a custom of inviting the horse of the city to honour the procession, which make the solemnity the more conspicuous; and they very willingly accept of the invitation, for they are very ready to mount on horseback to honour any, much more those who distinguish themselves by the exercises of virtue and learning.

CHAP. VI. — *Of the Worship of God, and the Church Ceremonies in the City of St. Jago.*

IF we were to make a judgment of this city by the worship of God that is performed in it, and the appearance of the clergy, we should judge it to be much bigger than it is; for the state and expence with which the holidays are kept, in the charge of musick, perfumes, wax, and other ornaments, are very great: let us give some particular instances, and begin with the cathedral. I cannot but commend the piety of those eminent persons, the bishop, president, and counsellors of the royal Audiencia, who taking each of them a day during the octave of the holy sacrament are at the whole expence of that day, and that is very considerable; for all the wax and perfumes are very dear, as coming from Europe; and the holy emulation that is between them, increases the splendour of the day; so that during that octave, the church is so perfumed, that its fragrancy is smelt some distance from it. The procession of the first and eighth day are upon the account of the chapter, as the hanging of the streets, and erecting of altars for repositories, are at the charge of the inhabitants where the procession passes: this procession is attended by all the convents; and all the companies of trades, with their banners and flags, so that it reaches a great way. After this of the cathedral come every day new ones of all the convents, so that they last a month, every one endeavouring to have theirs the best; by which means there are great variety of ornamental inventions and machines. The Indians of the neighbourhood, that live in the Chagras, that is, little cottages, within some miles of the city, attend likewise with their banners: and they chuse for this purpose a leader who makes the expence, and treats those of his company: their numbers are so great, and the noise they make so loud, with their flutes, and their hollowing and singing, that

that they are placed in the front, or else there would be no hearing the church music, nor any means of understanding one another about the government of the procession. The other feasts and holidays in the year are proportionably solemnized with the same decency by all the orders of friars, who all of them have some devout persons who help to bear the charge. But the nuns exceed all the rest in ornaments; and these nunneries are so populous, that in that of St. Austin alone there are above five hundred persons, whereof three hundred are veiled nuns, the rest are lay-sisters; and because the nunnery being full, there can be no more received, but with great difficulty, the other nunnery of Santa Clara receives so many every day, that in a little time it will equal the other in number, as it does already in the pomp and ornament of its church-service; that which these angels of Heaven, (for so we may justly call those who with so much piety and anxiety do serve God continually, and are as a wall of defence to the city,) that which they do most shine in, can hardly be expressed as to the neatness, curiosity, and richness of their altars, and the church-ornaments. What shall I say of the smells, artificial flowers, fruits, chocolates, pastillos, and perfuming pots, which I have seen sometimes of so great a size, that they struck me with admiration, considering the matter they are made of, which is of a refined sugar, as white as snow, sometimes in form of a castle, sometimes of a candlestick, or a pyramid most exquisitely wrought.

They are not content with this; for I have sometimes seen the whole grate of the choir, and the joiners' work, and beams of the church, all covered with preserved citron, in form of suns or angels of *mezzo rilievo*, and a thousand other inventions, which I should never have done, if I should report them all. I must only say, that the generosity of those ladies is such, that though this costs very much, yet I have often seen them, at the end of a mass, distribute all those things to those who happen to be in the church, without keeping it for themselves: they do not only do this within the church, but the altars which are set up in their cloisters, and streets near them; for the processions are adorned, after the same manner, with fruits and flowers of the same materials, so well imitated, that they appear new-gathered.

The monasteries of men are not so well filled as those of the nuns, though some have a hundred, others sixty or seventy friars. The secular clergy is also very numerous, very virtuous, and learned. Since I came away, there has been founded another nunnery of about thirty nuns, who will need no portion, being provided for by a gentleman who left all his estate to that foundation; it was Captain Alonso del Campo Lantadilla, Alguazil mayor of that city, which will be of great service to help the providing for poor maids, who, perhaps, else would not find it easy any other way.

#### CHAP. VII. — *In which is treated of the Processions of the Holy Week in the City of St. Jago.*

LET us conclude this matter of religion and pious exercises with saying something of the most remarkable practice of it in the holy week, by the stateliness of the processions at that time; which is such, that all strangers confess, that if they had not seen it, they should hardly have believed it. These processions begin on the Tuesday in the holy week, to which the company of the Morenos, which is founded in our college, give a beginning, (of which we shall speak more when we treat of its employments, as also of the brotherhood or confrary of the Indians, on the morning of Easter-day.) The procession that follows next, is that which comes out of the convent of St. Austin,

in which is founded the confrary of the Mulattos : they go all covered with black frocks, and have many passages of the passion sung very devoutly, with the best music of the place, and many lighted torches. The Wednesday the famous procession of the confrary of the Nazarenos sets out, which is all of natural Spaniards, of several arts and professions, and is founded in the royal convent of Nuestra Sennora de la Mercede ; and it is one of the richest and most adorned processions. This procession is divided into three troops : the first of which carries La Veronica to the cathedral, where it stays to meet the second, in which comes the Redeemer with his cross, so heavy, that he is forced to kneel often.

When this second, which is the largest, comes to the great place, that which staid at the cathedral goes to meet them ; and at a certain distance, in sight of a vast multitude of people, the Veronica comes, and kneeling down to the image of Christ, which is a very large one, seemingly wipes his face, and then shews the people the representation of it remaining in the handkerchief ; and then, as they begin to march, there appears the third procession, in which comes St. John, shewing the Virgin Mary that dolorous spectacle : so that by all these there is formed a mighty procession, with many lighted torches, and all the brothers are clothed in their red frocks, marching with great silence and devotion. There is another representation of great piety, which is performed in the convent of St. Francis, and in this convent ; which is the parting of Christ and his mother, which uses to cause great passion and many tears, because of the naturalness with which it is acted.

On the Thursday there are very curious sepulchres erected, and many alms given to the poor ; and though in the foregoing processions, and on the Fridays in Lent, there are to be seen some people whipping themselves, with divers sorts of penances, which every one performs according to his own devotion, yet the processions, which by excellency are called the bloody processions, are performed this night. One of them sets out from the chapel of the true cross, which is in the convent and chapel of Nuestra Sennora de la Mercede, and is only of the inhabitants and gentlemen, who go all covered over with black frocks ; and he who carries the cross is obliged (besides the collation which he provides for the preacher, and the music, and which uses to be very magnificent) to provide also men to attend the procession, and relieve the whippers, who often draw so much blood, that they faint away ; and others take care to cut off of the disciplines some of the spurs of them, for they use to have so many on, that they almost kill themselves, nay, I have seen some of so indiscreet a zeal, that they used certain buttons with points so sharp, that if they were let alone, it is a dispute whether they would not die before the end of the procession. Before this go also two others, both of them bloody processions ; one of the Indians, and it is that has most whippers ; the other comes from St. Domingo, and is of the Morenos : they both have music ; and the communities of all the convents go to meet them when they come near their churches with torches in their hands. They spend a great deal of time in their procession, and are accompanied by an infinite number of people.

On the holy Friday there are two processions more that go out of St. Domingo and St. Francisco, both of natural Spaniards. That of Sancto Domingo is called the procession of pity, and has been begun but lately ; but it has made such progress, that it equals the most ancient : they carry all the marks of the passion by so many dressed up like angels very richly, and each of them is attended by two brothers of the procession with lights, and their coats of yellow. The other procession, which comes from St. Francisco, is the antientest, and has always been the best : it is mightily commended for the great silence and devotion with which it is performed ; for there is not a word spoke

spoke in it from its going out to its returning. Before it goes, there is performed the descent of the cross before a great concourse of people. This has always been an action of great piety, and very moving. The ensigns, or marks of the passion, go out in order; and when they come, there is another representation very tenderly made in the Cannada: there is a great cross set up; and when the image of the virgin comes up to it, it lifts up its eyes, as one who misses the sovereign good that hung on it, and, drawing out a white handkerchief, applies it to the eyes, as crying, and then opening the arms, embraces the cross, and kneeling kisses the foot of it once or twice: all this it does so dexterously, and becomingly, that one would swear it were a living creature: and this action being accompanied with the music of the day, proportioned to the grief of the mystery, it is incredible what effects it has upon the people, who crowd one upon another to see it.

On the Saturday, and on Easter-day in the morning, there are other processions. The first comes out of St. Domingo, and is of the gentlemen and citizens, who in this are clothed in white, of most rich cloth of silver or silk, finely garnished with jewels and chains of gold. The ceremony of the resurrection is celebrated by night in the cloister; and, for that end, there is such an illumination, that it seems day. The procession goes out very noble and gay, and in it are many lights, music, and dances, the streets being all adorned with triumphal arches, and hung with tapestries; and while this procession is in the cathedral, celebrating the mass, and communicating the host to the brothers, there comes another to the great place to meet it, another from the college of the Jesuits, which is a confrary of Indians, the most antient of the city, consisting of a company of Indians of both sexes, who, with torches in their hands, accompany the child Jesus dressed up after the Indian fashion, (which causes great concern and devotion): they have also many colours, ensigns, and other ornaments, very rich and gay. At the same time, two other processions of Indians likewise set out from the convents of St. Francis and Nuestra Sennora de le Mercede, and another of Morenos from St. Domingo, all with a great apparatus of drums, trumpets, colours, hautboys, dances, which make that morning appear very gay and merry; and that it may be so to our Saviour resuscitated, they all communicate, and give a happy Easter to the Divine Majesty and all heaven, to which the earth can never pay a greater tribute than by the conversion of sinners, particularly of these new Christians, whose ancestors adored but the other day their idols; and now they acknowledge, and kneel before the true God, sit with him at his table, as grandees of his court; they, who not long before were slaves of the devil.

#### CHAP. VIII. — *Of some other Holidays of the City of St. Jago.*

ONE of the things in which the greatness of a city shews itself most is, in its feasts, holidays, and public entertainments: we will touch a little on those of St. Jago; and, besides the secular ones of bull-feasts, running at the ring, Juego de Cannas, tournaments, illuminations, and other diversions in which this city shines, it is wonderful how well there are celebrated the public rejoicings for the birth or marriage of their prince, in universal canonizations of saints, and in all other solemnities, but particularly those ordered by His Majesty, as that was about thirty years ago, when His Majesty, out of his great piety, ordered, in honour of the queen of angels, that the mystery of her holy immaculate conception should be celebrated in all his kingdoms, as well by the seculars, as by the churchmen; and the first indeed need no incitement in this matter, every one being

being ready to shew their acknowledgments to this sovereign queen of heaven, who has favoured more particularly the kingdom of Chile with her protection from the beginning.

Let us now say what the city of St. Jago did upon this occasion, that the affection with which the inhabitants correspond to what they owe to this illustrious queen of heaven may be manifested, and some proof given of what they can do on such occasions: and letting alone what was done by all the convents and monasteries, I come to other particulars, to which three poetical contests gave rise: these were published solemnly on horseback through the town, with the company of the town magistrates, and all the gentry, without exception. The first of these troops were defrayed by the cathedral, the second by the celebrated monastery of the Conception, the third by the congregation of students founded in our college; and in all these there were prizes proposed of great value for the poets; and those who obtained them, had them given to them with great solemnity; and there were several representations, with other diversions, according to the custom of that country.

And, since we are speaking of what happened in those holy feasts, let us not forget as remarkable a passage as any: the day which it fell to the lot of our college to celebrate its feast, the father provincial, who was to preach before mass, felt himself so moved with love and devotion to the sovereign virgin, that, in a fit of extraordinary zeal, he invited the people to come after dinner to the procession of our church, and to sing before the image of our lady, that ballad which was in those days so famous, and begins—

All the world in general  
Says so, chosen queen of heaven,  
That you are conceived even  
Without sin original.

The auditory was much edified with the piety of the good father, but smiled at his proposal as impracticable; yet they all came at the hour, most out of curiosity to see the event of this novelty: they all took olive-branches in their hands, and began the procession while our fathers sung the stanzas. It was wonderful, that the same spirit which moved the father to such an extraordinary invitation, moved also all the people to sing before the image of our lady, which they carried thus to the cathedral; out of which the clergy coming to meet, and singing the church-hymns, the noise of the others singing was so great, that the canons were forced to give over, and accompany the people in their stanzas, singing altogether like so many children. They looked one another in the face, admiring at what they were doing, being scarcely able to believe; and if I myself had not seen it, knowing, as I do, the natural gravity of that people, I should not have believed it neither; but the inward force of devotion can do any thing, when the Lord of hearts makes use of it to exalt the immaculate pureness of his mother.

The rejoicings and entertainments upon this occasion lasted many days; one of them fell to the lot of the congregation of natural Spaniards founded in our college, who made a very ingenious and costly masquerade, representing all the nations of the world, with their kings and princes all clothed after their own fashion, with their attendants, and last of all the pope, to whom each nation came with its king, to desire his holiness to favour this mystery. The liveries were very costly, and there was a triumphal chariot, a great machine, in which was represented the church: but that which was  
most

most chargeable was the wax, which is very dear there; and this entertainment was given by night.

The other days were divided among the Negroes and Indians of all arts and professions, who having a pious emulation to each other, made many rare inventions; but the merchants carried the belle in a tournament, which they performed in the great Place, each adventurer coming either out of a sea, or a wood, or an enchanted castle, with his paper or challenge, acting their parts very well: they broke their lances, and received their prizes, which are things of great value. The gentlemen of the city crowned the feast with their usual diversions of bull-feasts, running at the ring Juego de Cannas, &c. There are generally about twenty or thirty horsemen to attack the bulls, and throw the rejos or lances at them, besides him who strikes the bull dead. The illuminations of torches, with which they use to run about all night, are also of great diversion; and upon this occasion they did it with rich liveries, and other chargeable expences, for the greater solemnity of the time.

The ordinary and annual rejoicings which are observed on Midsummer, on St. John's day, St. James's, and the Nativity of our Lady, are also worth seeing, particularly on the day of St. Jago, who is the patron of the city; for then the royal ensign of the crown brings out the great standard of conquest, with the king's arms, and is accompanied by all the gentry, who are obliged to appear on that occasion, which they do very gloriously.

There happen likewise some marriages or christenings of the people of best fashion, in which they make as good a shew as their estates will let them, and often above their abilities. In the bull-feasts, those who undertake them use to treat the royal Audiencia, and other bodies corporate; but in marriages they are profuse, for the presents to the bride have been brought in fashion to be very rich, such as slaves, carpets, scrutores filled with gold and jewels, and other curiosities of great value. There is not less spent in treats and banquets, particularly of late years, that they have taken to counterfeiting natural fruits, and other things, which serve for the sideboard; so that, after a man has given a treat of all sorts of birds and fishes, his entertainment is not gallant enough, if he does not add a desert of preserved citrons in all figures of love-knots, &c. and the other fruits imitated after nature: these they mingle on the cloth, with the figures of ewers, salt-cellars, jars, salvers, dishes, spoons, forks, knives, all made of citron, covered with leaves of gold and silver; and the first thing the guests do, when they sit down, is to plunder the table of these, for there are real ones of gold and silver for the banquet.

All this costs extremely, because the sugar comes from Peru, and the manufacture of all these curiosities is very dear; many are the guests; and, besides the wedding-dinner, the fathers give another the next day as sumptuous. This is what nobody of fashion can help doing. I have heard formerly, that first there were gentlemen, who, upon any of these public rejoicings, would do it all at their own charges, giving them all liveries of velvet, at the running of the ring for example; and yet then velvet was twice as dear as it is now. But at present that is left off, though they make expences equivalent in collations, bonfires, and other contrivances of great shew; for, upon these occasions, they all think themselves rich enough, which is a great ruin to families, every one straining, out of vanity, to equal another, though the difference in riches be very great.

And now let us leave St. Jago, which has detained us more than ordinary, to satisfy the curiosity of those who are desirous to know the increase and progress of the cities and colonies of that new world, and how the christian customs and government

have begun to flourish in it; and by this essay a judgment may be made of those settlements. I pass on to the particulars of the conquest of that kingdom, that I may afterwards give an account of the progress of the christian faith, and the great hopes there is of its greater propagation.

CHAP. IX. — *The Governor Pedro de Valdivia pursues his Conquest.—The Gold Mines are begun to be wrought.—He sends Proofs of their Riches to Peru; from whence the General Juan Baptiste Pastene brings him the first Succours.*

THE Governor Pedro de Valdivia having founded the city of St. Jago, began to think of fortifying himself in that post, to defend himself against the fury of the Indians, with whom he was every day engaged; and many men were lost on both sides, so that his men began to be uneasy, and talk of going back to Peru, as Almagro had done; for though they saw the richness of the country, yet it appeared to them dearly bought, since they could not get any of it without running great hazards by the many engagements that they had with the enemy; so that they gave their lives for gone. The Governor Pedro de Valdivia was not ignorant of the difficulty of his enterprize; but yet encouraged by the hopes of success, at last he resolved rather to die than give it over; and being an experienced soldier, bred in the wars of Europe, he resolved to raise a fort for the defence of his men, being convinced of the bravery of the enemy he had to do with; and though he was informed of a general rising, which the Indians designed, he sent seventy men to make an incursion towards the river of Cachapoal. The Indians taking the opportunity of the absence of these men, attacked the fort, and had gained it if the Spaniards had not shewed incredible valour in the defence of it till the other men returned; and by their assistance they repulsed the Indians, and remained conquerors.

The governor made good use of this advantage, both with the Indians and his own men; so that having quieted them, he began to work upon the mines of Quillota, which were of great fame: they proved so rich, and yielded such a quantity of gold, that he thought it adviseable to make a fort there for the security of his men; but finding want of hands, by the losses he had had, he resolved to send to Peru for relief. This he put in execution, giving at the same time an account of the richness and fruitfulness of the country, to incite people; and because ocular testimony persuades more than what we only hear of, he trusted six men, whom he sent along with thirty others, to have a great deal of gold with them, causing besides the stirrups of their horses, and all that is employed of iron work about the bridles and saddles, to be made of massy gold, making the stirrups very great and large on purpose. But all this design was disappointed; for these men, who were thus gilded like suns, were, when they came to the valley of Copiapo, fallen upon by the Indians, and all perished but two, who were Pedro de Miranda, and Monroy, officers, who got away by the help of their horses; but being pursued by the Indians through mountainous ways, and their horses tiring, they were taken by an Indian captain, called Cateo, who had a company of archers: they tied their hands behind them, and carried them to their Cacique, who designed to put them to death.

This Cacique was married to the heiress of all this valley (for there inheritances follow the women, for greater security of the right line), and when these two were expecting nothing but the blow of death, it pleased God to inspire the Cācica, or Cacique's lady, with compassion; and so she went herself, and with her own hands

untied theirs, commanding their wounds to be dressed, and treating them with some of their drinks, which she herself presented to them, having drank first herself, according to their custom, and bid them take courage, for they should not die. They seeing themselves brought, as it were, from death to life, threw themselves at her feet, and dedicated themselves to her as voluntary slaves, since by her favour they enjoyed a life which they gave for lost.

The captain, who had taken them, seeing his Princess and Sovereign shew them so much favour, came to them, and bid them be confident of their lives, for that their lady having commanded they should not be killed, there was not any one bold enough to look awry upon them: they were kept six months in this captivity; and though it was so gentle, by the kind usage they met with, yet the natural desire of liberty, and the hopes of returning to their friends, still worked with them.

Let no man think himself secure that has his enemy within his own doors, nor let him trust his prisoner, though yielded up to his discretion; for let him be used as well as can be, yet there is no happiness like being his own man, and enjoying his liberty. This thought continually took up the minds of these two captains, so they laid a plot how to make their escape. They had observed in the Cacique a curiosity for horses, which were creatures so new to those Indian countries; they persuaded him to learn to ride, and manage a horse. He liked the proposal, and began to exercise himself in this genteel amusement, carrying with him nevertheless always his guard of archers, with an Indian before with a lance upon his shoulder, and another behind, with a naked sword in his hand, more out of grandeur than distrust; for he had no suspicion of their plot, which was, to take an opportunity when he rid out to fall upon him, and kill him, as they did; for Captain Monroy, with an extraordinary intrepidity, without reflecting on the guard that attended him, attacked the Cacique, and Captain Miranda the rest, with so much suddenness, that they made themselves masters of the lance and sword; and bestirring themselves courageously, they wounded and dismounted the Cacique; so that he died of his wounds in some months. Having gained the horses, they saved themselves upon them; and not being pursued in that disorder, they overcame all the difficulties of those solitudes, and arrived at Peru safe; where at that time they found the government in the hands of the Licenciado Vaca de Castro.

These two captains were gentlemen of great families; and to this day the Mirandas in Chile are of the flower of the nobility of that kingdom. As for the Monroys, they are so known in Castile, particularly about Salamanca, that it is needless to say more of them. They were very well received by His Excellency, for the good news they brought of that discovery and conquest, of the pleasantness of the country, and richness of its mines; and upon this relation, as Antonio de Herrera and other authors say, it was resolved to further this conquest, which seemed to be of such high importance, and to chuse out some fit person, and accompany him with soldiers, arms, ammunition, and cloathing for the soldiers, who were almost naked.

He chose for this employment Captain John Baptiste Pastene, a gentleman of the most antient and illustrious house of Pastenes in Genoa; which family is at present extinct in that republick, and remains only in its records, where many of that name are in the books of the nobility, and among the greatest dignities of the state. This gentleman engaged in the conquest of the new world by the same desire of glory which moved others, and to mend his fortune. He happening then to be in Peru, the viceroy took hold of the occasion to employ him for the King's service; which this gentleman accepted, and performed, going for Chile, where he arrived with succours which that kingdom stood in so great need of.

This relief was received with great joy, as being in the beginning of the enterprize, and extremely wanted, the soldiers being much fatigued and weakened with the continual assaults of their enemies, without any other defence than their fort of St. Jago, where they had enough to do to shelter themselves from their valour and fierce attack; but the arrival of these succours gave them new courage, and resolution to prosecute their enterprize. To undertake it with more regularity, and prevent what accidents might happen from the sea, the governor sent Pastene with the title of lieutenant-general in his own ship, to discover the coast as far as the straits of Magellan, as he did; and it appears by the letters of Their Catholick Majesties, Philip II. and his son Philip III. how agreeable this piece of service was to them. About this time the mines of Quillota being working with great profit, and Don Gonçales de los Rios being captain-governor of the work, the Indians brought him a full pot of great grains of gold, for a shew of a great deal which they said they had found in a certain place. There they had laid an ambuscade of several of their best men, to fall upon such as, blinded with covetousness, should go to seek this treasure. This happened accordingly, for they all run presently to the place; for there is no alarm never so warm, that rouses better than this desire of growing rich at once did them: but they were much mistaken; for instead of gold, they met with the iron of their enemies' lances, who killed them all but their captain and a Negroe, who escaped by the swiftness of their horses: so the Indians remained victorious, and by the way of triumph, set fire to a frigate which the Spaniards had almost finished to keep up their correspondence with Peru.

CHAP. X.—*The City of Serena is peopled.—John Baptiste Pastene goes for more Succours to Peru, from whence he returns to Chile; and with Valdivia and other Captains, goes to help the Royal Army against Pizarro.*

HERRERA says, that with this relief which Valdivia received, he pursued his conquest on the people called the Promocoes; and that he was met by several Indians in the valley Quilloema, whom he overcame courageously, though with the loss of some horses; and at that time horses were a thousand crowns a-piece. Having discovered large provinces, and being satisfied of the great number of inhabitants in them, he returned to St. Jago. It is supposed the governor did all this in haste, since he returned without making any fort or settlement: so it is probable he went this time only to discover, in order to form a force proportionable of an army: therefore the General John Baptiste Pastene being returned from discovering of the sea-coasts, he sent him back to Peru to endeavour to bring more succours, as he had done the first, and so form an army capable of enlarging his conquests upon such powerful enemies, as he found the natives of Chile to be. Judging therefore that it was not yet time to leave any thing behind him unfortified, he founded in the valley of Coquimbo the city generally called by that name, but by him called La Serena, to serve for a resting-place or Scala for the people who came from Peru to Chile; for being in great want of Supplies, he did endeavour to facilitate by all means their passage, and draw as many people as possible to preserve his conquest; for acting otherwise would only be to have so much the more to lose; as indeed it happened, and shall be related in its due place.

The city of La Serena was the second that was founded in Chile in the year 1544, in a very pleasant and fruitful valley, watered by a very fine river, not of the biggest, but

but of clear and admirable water, with which the fields are all so plentifully refreshed, that their product is so various, that the inhabitants want almost nothing from abroad that is necessary for human life; for they have corn, wine, flesh, all sorts of other grain, and pulse-fruits, even more than in St. Jago; for besides all those of Europe, and those of Chile, they have two sorts very extraordinary: the first is a sort of cucumbers, which are very sweet, and do not need paring, for the outside is a very thin skin, smooth, of a delicate colour between white and yellow, all streaked with a very fine purple; the other fruit is that which they call Lucumas, and is a fruit, as I remember, I have seen in Peru: it is a very wholesome well-tasted fruit, the stone is smooth, and of a purple colour. The oil of this place is absolutely the best in the whole kingdom, as clear and bright as one's eyes, and of a rare smell and taste: they make great quantities, so that they send a great deal abroad. They have great flocks of cattle, though not so many as about St. Jago, because it rains less, and so the pasturages are leaner.

But that which is most particular, and of greatest value in this country, is the great abundance of rich metals, as gold, copper, and lead; so that though they have given over gathering of gold in all the other parts of Chile, because other products are of greater advantage, yet in this place they go on gathering it more or less, according as the winter is more or less rainy; for when it rains much, the mountains are dissolved, and the earth opened, and so the gold is easier found. And the copper too that is melted down there, serves for all the kingdom, and Peru besides. The climate of this city is absolutely the most temperate of all the kingdom; because the winter, which in other parts is very sharp, particularly nearer the pole, is here so gentle, that it is hardly perceived, it being within five or six degrees of the tropick, and being in the 29th degree of latitude, enjoys a moderate climate, the longest day being of fourteen hours, and is upon the 11th of December, as the shortest is on the 11th of June, and the night is of fourteen hours.

But the accidental situation of the city helps much towards the mildness of the climate: it is within two leagues of the sea, having a plain before it all covered with myrtles: it stands on a rising ground, having a prospect to the sea, which makes a beautiful bay, abounding in fish of all sorts; by which it is an excellent place to pass the Lent in, fish being very cheap: but the good cheer is also as well out of Lent; for besides the mutton, which is excellent and very nourishing, there is plenty of tame fowl, partridge, turkeys, and all sorts of wild fowl. This city began to be inhabited by many noble families, the founders being men of the best quality that came to Chile; and their descendants have remained, and do maintain the lustre of their ancestors. The governor-general appoints the place of Corregidor, or mayor of the city; and it is one of the most profitable places that are, because of the mines which are wrought in its territory: but notwithstanding all these good qualities which we have mentioned, this city does not increase so fast as that of St. Jago; for this last may be compared to the clove-tree, which sucks to itself all the substance of the earth round about it, a thing which is proper enough to capital cities every where.

About this time the General John Baptiste Pistene arrived at Peru for a second supply of men, which Pedro de Valdivia desired of the viceroy, to carry on his conquest; but he found the whole country in confusion, caused by the stubborn disobedience of Gonçalo Pizarro, so that the government wanted relief itself, instead of being in a condition to relieve others. This was so true, that Pastene was forced to return to Chile, to bring a force from thence to join with the royal army. This resolution it is probable came to the knowledge of the tyrant Pizarro; for he found means to seize

his ship and his person by cunning. Pastene, though much pressed by Pizarro both by promises and threats to join with him, as very well knowing how much he might assist him as his friend, or injure him as his enemy, yet persevered in his loyalty to the King, and found means to make his escape out of the hands of the tyrant, and to recover his ship too ; which having new fitted with necessaries, he returned to Chile, to bring from thence some of the best officers to encourage the royal army, which was preparing to engage Pizarro, who on his side had such a force, that he had put to death the viceroy Velasco Nunnes Vela. In Chile they were waiting for his return, and the succours he should bring with him ; but when they saw him without any, they were much troubled ; for they found themselves obliged at least to suspend all their projects upon Chile, to go and relieve those upon whom their own preservation depended.

The Governor Pedro de Valdivia, as soon as he heard what passed in Peru, resolved to go thither in person with some of his best officers and soldiers to join and help the King's forces. He left in Chile for his lieutenant Captain Francisco de Villagra, a gentleman of great courage and good parts, that he might govern and preserve what we had already in that kingdom, it being impossible to do more, or make any further progress, till the times should alter, and he provide more forces. He got together what gold he could, and went aboard with his captains and soldiers in the same ship, under the conduct of the same General Pastene. His arrival at Peru gave great courage to the King's forces, by reason of the gold and men which he brought, the valour and experience of which was so great, that in the battle they performed extraordinary things, being the chief cause of the victory obtained over Pizarro in the valley of Quiriguana. He himself was taken, and chastised with his guilty assistants, as his folly deserved, and his disloyalty to his Prince. The president of Peru, Gasca, always advised with the Governor Valdivia in all his most important affairs, whom he made of his council, with six more, for the secretest affairs and of most importance, making great esteem of his prudence and experience, as well as of the valour of his companions.

The victory being obtained, the governor returned to Chile, with a good succour of men and arms, and the same officers and soldiers, who accompanied him to Peru, with which, and other succours which came afterwards, he was in a condition to pursue his enterprize vigorously, as we shall see hereafter. But all was little enough against the resistance of the Indians, who not only kept them from advancing, but for six years together that their stubborn opposition lasted, they reduced the Spaniards to great extremities of nakedness and hunger ; so that they were forced to eat herbs and roots, and rats and mice, and such things ; and if the heart and courage of the Governor Valdivia had not been invincible, it would have been impossible to have made the conquest.

CHAP. XI. — *What happened in Chile during the Absence of the Governor Valdivia, and after his Return ; and of the new Succours he received.*

PEDRO Sanches de Hoz was a soldier, to whom the King was pleased to grant a patent for the discovery and conquest of certain lands, to begin from the jurisdiction of the Marquis Francis Pizarro ; and he pretending that part of the kingdom of Chile was in his grant, opposed the Governor Valdivia, to whom Pizarro by a royal commission had given the conquest and government of Chile ; but the marquis persuaded him to desist, and go along with Valdivia to Chile, recommending his person to the governor, to use him with regard, and give him a share in the best part of his conquest. Val-

divia

divia did so, bestowing on him the richest lands of the Indians; but the ambition of commanding is always very contentious, and subject to complain till it gets the upper hand. This appeared in Pedro Sanches de Hoz, in the absence of the governor from Chile; for being vexed that he was not left with the authority of lieutenant in his room, he plotted to take away the life of him who had it, which was Francisco de Villagra, who having notice of his designs, seized upon Pedro Sanches de Hoz, and cut off his head, by which he assured his own; and Valdivia approved of the thing as well done, when he was informed of it; because he was a friend to justice, and because a competitor is never sorry to have his competitor removed.

About this time, the Indians of Copiapo, who had begun to imbrue their hands in the blood of the Spaniards, in pursuance of the revenge of their Prince's death, whom the Captains Miranda and Monroy had killed, as we have related in the ninth chapter, lay in wait, and surprised Juan Bon, with forty soldiers more, of some companies which were coming from Peru, and marching through their country; these they put all to death. After their example the Coquimbefes attacked the soldiers and inhabitants of the city of La Serena, whom they killed without sparing one, and set fire to the city, which they ruined utterly, not leaving one stone upon another.

All this being understood by the governor at his return from Peru, he sent Captain Francis de Aguirre with a good force, to follow them to their retiring-place, where in several rencounters, in the valley of Copiapo, he overcame the Indians: all which was much owing to his great valour as conduct, without which the force he had would have proved insufficient (as Herrera observes). He did the same in the valley of Coquimbo, and rebuilt the city of La Serena, in the place and situation where it now stands. For which reason he was looked upon as the true founder of it; and his descendants, who are of the best nobility of the kingdom, have preserved that prerogative, and are the chiefest in that government, or rather the masters of it; for they are so numerous and so powerful, that they yield to none in reputation, and are accordingly respected by all.

Let us now treat of that which it is not reasonable to forget; which is, of those captains, who in those early times entered Chile with succours of men to help to conquer it, since it is just their memory should live for ever in those who enjoy the fruits of their labours, and are now masters of what they gained with their blood and sweat, and the loss of many lives, and danger of their own, which they exposed in so many battles and encounters they had with the enemy. I am only sorry, that I cannot speak of them all, and describe in particular their good qualities and great merits, because I am in a place where I want memoirs and informations for such a work; but I will say what I can of their noble actions, as I find them recorded in other histories; though to say truth, that which they say about Chile is so little, that it is almost next to nothing. I am not surprised at it, for it is a place much out of the way, and its conquerors were busier with their swords than with their pens; for their enemies pressed them continually with so much vigour, that they had but little of that leisure which histories and relations require. We shall begin with the Governor Pedro de Valdivia, who was the first that entered the kingdom with a force, as has been related; then that which General Pastene brought afterwards with arms and cloaths. The succours brought by Captain Monroy proved of great importance; as Herrera says, it was of three-score men, which in those days was as much as six hundred now: these he had hired in Peru, being much assisted by the viceroy, who, upon the relations of Monroy and Miranda, was resolved to encourage the enterprize.

I am certain, whether it was before this, or after, that arrived the succours so opportunely brought by Captain Christoval de Escobar Villaroel; for I do not find it mentioned in any of the historians, which I have read here; but in Chile the memory of it is very fresh, and will never be forgot; not only for his coming in a time when they extremely wanted supplies, but also for that circumstance of this noble captain's having brought these succours upon his own charges, (and I think they were seventy men,) and made his way by land to Chile, either by the wilderness of Aracama, or by the Cordillera, either of which must cost a great sum of money, for it is above five hundred leagues.

This action alone was sufficient to shew the nobleness of this gentleman, if that of his family had not been so well known as it is in Spain; but he continued to give proofs of his zeal for the King's service, by serving in person, and employing also his son Captain Alonso de Escobar Villaroel, whom he had brought with him from Spain, that they might both give an example to their posterity, as they have; not yielding to any, but have produced many noble persons, both in arms and other civil employments of the government.

When I reflect upon those I have known of the descendants of this famous head and conqueror, I find, that between sons, grandsons, and great grandsons, they come up to eighty-seven; and if they had not been so many, there was enough to honour this family in the seven or eight sons of the General Luis de las Cucuas, grandsons of this gentleman, with whom he presented himself to the royal army, all armed cap-a-pé, in which they served many years at their own charges; for in those days the inhabitants that were gentlemen had no other reward but their loyalty, and the glory of serving their prince. Antonio de Herrera makes mention of another supply, of one hundred and eighty men, conducted by Captain Francisco Villagra, who was afterwards governor of Chile, and to whom that kingdom owes a great deal of its being, for the hazards he ran, and the noble actions he performed in its conquest, as we shall see hereafter, and may be read in the general history, to which I appeal. The nobility of his family was always notorious, and the gentlemen of his name have shewed themselves worthy of it, in the great services they have and do perform every day for the King, worthy of all sorts of acknowledgment and reward.

After this, in the time of the viceroy Don Antonio Hurtado de Mendoza, His Excellency, as Herrera says, he sent Captain Don Martin de Avendano by land, with good succours of men, and three hundred and fifty mares and horses, which were of as much importance for the war as so many men. The descendants of this gentleman are still carrying on the lustre of his family, so known in Salamanca and other parts. I was acquainted with two brothers of that name who alone might preserve and increase the reputation of their family; the one was Colonel Don Antonio de Avendano, who was colonel of the regiment of Arauco, who signalized himself at the head of that regiment in many rencounters with the enemy, and particularly in one, where our camp was defeated, and where, to preserve the reputation he had gained in so many noble actions and imminent dangers, he chose to die, being wounded in a great many places, and almost cut in pieces by the furious enemy. The other was Don Francisco de Avendano, likewise colonel, and who came to Spain; where His Majesty, in consideration of his own and his ancestors' merit, honoured him with the habit of St. Jago, and the government of Tucuman, where he died.

I do not mention those companies out of which, as they passed by Copiaco, forty were killed, with their leader Juan Bon; because Herrera, who speaks of this, does  
not

not say who was the captain of them. Perhaps there were also other commanders, who in those six years time entered into Chile with men; and I should be glad to be where I might have particular information of them, to do them at least that small honour of putting their names in print, and giving some glory to actions which, perhaps, deserve to be graven in brass.

I do not likewise set down here, that famous supply of men brought by the second governor of Chile, Don Garcia Hurtado de Mendoza, Marquis of Cannete, for this shall be spoke of in its proper place, after the death of the Governor Pedro de Valdivia; and thus we shall conclude those who entered by the way of Peru. For though since that time, there have been several supplies, and are every day still more, yet they have not been remarkable enough, as not having come at first, but after the settlements were made; and besides, it would carry me too far to report them all. But I shall add here those which have come from Spain by the way of Buenos Ayres, as well because they were the most numerous, some having been of five hundred or a thousand men, as having come in dangerous times, when the kingdom was ready to be lost, the enemy having, as it were, besieged it; and so it is just to preserve the memory of such famous benefactors, who have been, as it were, fathers of their country.

CHAP. XII. — *The Governor Pedro de Valdivia pursues his Conquest, and peoples City called of the Conception, where he had like to have been destroyed in a Battle.*

THE Governor Pedro de Valdivia, seeing himself with a good force, and the greatness of his mind persuading him that he had wherewithal to put an end to his enterprise, Herrera says he sent to the other side of the Cordillera, from St. Jago, Captain Francisco Aquirra with a good number of men, with which he passed those terrible mountains, and founded the Diaguitas and Juries.

Herrera says no more: nor do I know any thing of those individual places and cities which he founded. The Governor Valdivia, on his side, set out of St. Jago with a powerful army, and, passing the furious river of Maypo, Cachapoal, Tinguirica, Peteroa, Tena, and Metaquito, he conquered the Promocaes, a warlike people, who had resisted Almagro, and, before that, had repulsed an army of fifty thousand men, which the Inga had sent against them when he endeavoured to conquer Chile; but the good fortune and great valour of Valdivia and his men overcame that which seemed invincible, though I am persuaded that it was not without blood: but I refer myself to the general history of Chile, which has described the particular encounters and battles on both sides.

The army passed the deep river of Maule, and the wide Itata, and coming to that of Audalien, quartered by the sea-side; and, for the conveniency of situation, he founded there the city of the Conception in the year 1550. But the natives, astonished and enraged at this boldness of strangers, to enter thus into the heart of their country, as if it were their own, called a general assembly, and, with a numerous and brave army, presented them battle so furiously, that our people began to wish they had not engaged themselves so far. Much blood was shed on both sides; and our army was in great danger of being destroyed, till it pleased God, (who guides all things to his ends,) who was to reap the fruit of his victory over those Gentiles, whom he had predestinated by the means of the Gospel, which was to be preached to them in case the Spaniards were victorious, to make them so at last, and that very gloriously, the famous Anabillo,

Anabillo, chief head of the Pencones, remaining prisoner, after having behaved himself with great bravery in the fight.

The situation of the city of the Conception is on a plain where the sea makes a most beautiful bay, in form of a half-moon; and nature has provided a mole, by putting there a large island, behind which ships ride safe from the north wind. By land, towards the east, it is encompassed with some high hills, the sides of which are all planted with vines and other fruit-trees; so that, which way soever one looks, the prospect terminates in beautiful plantations of trees, or rather a green semicircle, which rejoices the sight, and fortifies the city. From the north, there comes into it a small river, which comes down from the mountains, which we have already described in the chapter of the rivers of Chile. On the south side, another larger deeper river runs by it, and is called Audalien. Neither of these rivers does the kindness to the city which Mapocho does to St. Jago, that is, to come into the houses; but the want of this is supplied by excellent fountains of chrystalline and delicate water, which rise very near the city, and are brought into it particularly very plentifully, and which were carried to the public place by the General Don Diego Gonçales Montero, he being Corrigedor of this city, and governing it with the same prudence and generosity, that he since governed that of St. Jago, in the same quality of Corrigedor and lieutenant-general.

This city is in the latitude of thirty-three degrees and five and forty minutes to the antartick pole; and for this reason, and because of the high land it stands upon, the air is so temperate, that the heats never are troublesome, nay, in the heat of summer, it is necessary to have as many bed-clothes as in winter, which is not at all severe, because it never snows there, though it rains extremely. For the security of the city, there was erected a good fort for our people to retire to when pressed by the Indians, which often happened, and made them stand to their arms almost continually; for they, impatient of any yoke, were incessantly taken up with the thoughts and endeavours of driving them out of the country, and, notwithstanding all the care that was taken, the city was lost at last, for the enemy overpowered us: but yet in length of time it was built again, as we shall see; though still remaining a frontier to the enemy, it has not had such increase as St. Jago. But it gains ground, and has many rich inhabitants, who have entered upon a great vent of salt, flesh, and hides, which is one of the richest commodities of Chile; and they have, besides, magazines of flour, with which they furnish the army: the wines, too, of those parts are generally better than those of St. Jago, though they are lower ceps or vines; nay, the grapes ripen as they lie along on the ground, as it is in many parts in Europe: they have not that abundance of almonds, oil, oranges and lemons, pulse, Agi Legumes, and dried fruit, as in other parts of Chile, their summer being shorter, and the sun having less force.

The Spanish children born here are of a very sweet nature, and docile; of good wits, and take to learning very well. The men are loyal, faithful keepers of their word, friendly, and such as for their friends will venture any thing to defend them in their honour and fortunes, even with the hazard of their own, and their lives too: they are very well disposed to virtue, having good inclinations; and those among them, who have taken to arms, have extremely signalized themselves. They are bred in great simplicity, as being far from the corruption of the court, which generally improves the malice, and raises the libertinism of young people. The bishopric of this city is a poor one, not being worth above two or three thousand pieces of eight a year, because, though the land is rich of itself, and that in which there are most mines, yet the Decimes or tenths are very small, because of those continual wars which this city has maintained from its beginning; for we may say, it has been nursed with blood, and grown up in  
arms,

arms, not having laid them down in ninety-five years, which is no small evidence of the good qualities of its inhabitants, and what it may be henceforward, when this dead weight is taken off. Another cause of the small revenue of this bishoprick, is the loss of seven cities, some of them the richest of the kingdom, which all belonged to its diocese.

In the year 1567, there was settled a high court of chancery, which remained till the year 1574, and afterwards it was removed to St. Jago, where it now is : and though its jurisdiction reaches as far as this city, there is little for it to do, because the governors are generally present, to be nearer the garrisons, and countenance and assist the war, of which there is a continual necessity. The garrison is very numerous, and of choice soldiers, where every day they mount the guard, as it is practised in places of war. The general provides all the officers, even to the colonels ; but His Majesty names the treasurer and muster-master-general, who is the second person after the governor : this is a post of great esteem, and no small value in this kingdom ; and there go through his hands three hundred thousand ducats of the King's money, which every year is to be distributed among the officers and soldiers, who are enrolled in his books.

CHAP. XIII. — *The Governor Pedro de Valdivia prosecutes his Conquest, and founds the Cities of Imperial, Valdivia, and Villa Rica, and raises three Forts in Arauco.*

THE Governor Valdivia having spent the year 1550 in peopling the city of the Conception, and defending himself in his fort against the continual attacks of the enemy, and having, at the same time, informed himself more exactly of the country, and its fertility, by the means of Captain Hyeronimo de Alderate, who had gone through it, and observed the number of its inhabitants, resolved to go out of the Conception, and pursue his conquest. In order to this, after having well provided his fort, and left a garrison in it, he set out in the beginning of the year 1551.

He took his way with his army by the plains of Angol, crossing first the great river Biobio, and coming to that of Cauten, which, for its gentleness, is called the Ladies River, when joined with another very pleasant one near the sea : here he found great settlements of Indians, and founded the city of Imperial. This is one of the most agreeable situations of the whole kingdom, being about three or four leagues from the sea, and thirty-nine leagues from the Conception, and a hundred and nine from the city of St. Jago, in thirty-nine degrees of south latitude. All the territory of this city is very fruitful, bearing corn, and all sorts of pulse and fruits, though the black grapes do not ripen so kindly as the white ones and the muscadines : the country is not all plains and valleys, nor all hills, but rather a composition of the whole ; the hills are gentle and tractable, with good pasture and shelter for cattle ; the ground does not want much watering, it having frequent and large dews that fertilize it. The city was situated upon a pretty stiff hill, and the confluence of two navigable rivers ; but the port is not good, for the flats there are within three fathom and a half of depth. Here the governor met with fourscore thousand Indians settled, nay, some authors say, they were many more ; and all agree that they were a quiet and good-natured people, not at all so warlike as the Araucanos.

This city was the head of the bishoprick, and it began to increase at first very much, by reason of the excellency of its soil and situation ; and if it had not been destroyed, as we shall see hereafter that it was, it would by this time have been a great city ; for it was already very well peopled, and must have increased, if the gold mines which are in its neighbourhood had been wrought.

This city, which was the fourth of this kingdom, being thus founded, the governor divided the territory, and gave the lordships to his conquerors, according to the royal privilege he had so to do, that he might engage the Spaniards to enter more heartily into his enterprize. He took for himself the lordships of Arauco and Tucapel, as far as Puren, except some manors that he gave to others, to content all. Having left a force, which seemed sufficient in the city of Imperial, he marched as far as Valdivia. Being come to that famous river, and desiring to pass it, to conquer the land and people on the other side, the brave Indian lady, called Recloma, hindered him, offering to pass the river alone swimming, and to reduce the Indians to his obedience, as she did, and we have already related in the ninth chapter of the first book; and there likewise is a full description of the situation of the city, and all its other qualities, which it was proper to make in that place, and so it is not necessary to repeat here. The governor having founded the city of Valdivia, erected a fort, and settled all things as he had done at the Imperial. While he stayed there to pursue his settlement, he sent Captain Hyeronimo de Alderate to discover the country as far as the Cordillera Nevada; and he having sent to the governor relations of his discoveries, as he went founded a town, which he called, by the excellency, Villa Rica, the appearances of the riches of that country being greater than any yet had been discovered.

Though the situation he chose seemed at first to be the best, yet in time it was resolved to change it, and place it upon a great lake, at the bottom of the Cordillera, and about sixteen leagues from the Imperial, and forty from the Conception. It has not such a plenty of corn and wine as the others, but it has enough, and many other good qualities, which I omit, because it being since destroyed with other cities, already mentioned, I am likewise forced to be silent of their particular properties, and refer myself to the general history of Chile, which will embrace all those particulars.

These were the cities planted and peopled by the governor Valdivia; and though I have not, as to these last, made mention of the blood spilt in gaining them, it is not to be imagined but that they cost dear enough, since the contest was with such warlike nations, that it seemed a great rashness (and would have been so without a particular protection from heaven) to undertake such enterprizes. There are not wanting those who blame the governor Valdivia, judging that he did not measure well his strength, but grasped more than he could hold, as he found by a sad experience at his own peril in a little time.

The authors who speak of these attempts are full of the commendation of the valour, patience, and sufferings of the Castilians; but all this would not have done, nor have subjected those people, nor twice that force could have prevailed against them, if, because they saw them on horse-back, and killing people at a distance, they had not believed them to be Epunamones, by which name they called the gods they adored; so they imagined them to be immortal, and that they came from above with a power to send out thunderbolts like God: for having never seen either small arms, or great artillery, they thought the noise was thunder; and to this day that sort of arms is called Talca, which in their language signifies thunder; and out of the same imagination they called the Spaniards Viracochas, which is as much as to say, scum of the sea, or a people come by sea, giving to understand, that those men, if they were men, were sent from God to subject them. This made them ready at first to show all respect to the Spaniards, and kept them from rebelling, and resisting so vigorously as they did afterwards, though they always made some opposition, particularly the Araucanos, who have ever been the eagles among the Indians. Valdivia having well observed this, was content at present with what he had conquered, and returning to Arauco

Arauco by Puren and Tucapel, he caused three strong houses to be erected in the distance of eight leagues from one another, and in such places as might have an easy communication together. Having thus settled matters, he returned to the Conception, and so to St. Jago; from whence he dispatched Captain Hyeronimo de Alderate to Castile, to give the King information of the riches that were discovered in that country, and its other good qualities; as also a relation of the settlements made there, in order to obtain a supply of people, which was granted. The cities newly founded were in great danger of being lost; for indeed they were more than our forces could protect, and the Indians shewed great impatience, and fretted to see foreigners settle cities in their country, and erect forts and strong places for their security.

The governor being informed of this disposition of the Indians, set out from St. Jago with a supply of men which he had received from Peru, under the conduct of Don Martin de Avendano, and relieved all the garrisons; which having done, and presuming they were safe, without reflecting on the danger that threatened him, he applied all his intention to give a beginning to the working of the gold mines for a design he had.

This was to go to Spain, and carry with him all the gold he could get together, to shew the King the vast riches of the country, and to obtain from His Majesty those titles of honour which were generally bestowed upon the conquerors and discoverers of those Indian kingdoms, and so bring back a good force to subdue them. For this end he did two things; the first, to send to the straits of Magellan, in the year 1552, Francisco de Ulloa, that with two ships, which were equipped on purpose, he might discover all the straight, and give an account of it, so that he might know how to undertake the voyage to Spain that way: the other thing he did, was to set people to work to find out new gold mines, which they easily did, there being so many in these parts; among which, the most famous were the mines of Quilacoya, four leagues from the city of the Conception; and others in Angol, to work which he employed twenty thousand Indians. It is easy to imagine how much gold such numbers of men might get from those mines, which had never been touched till then; it was very great, and enough to enrich both governor and soldiers, which it did: and with the acquisition of so much treasure, they began likewise to despise their enemies; who, while they were busy in searching the bowels of the earth for gold, were employed in thinking how they should recover their lost liberty, and free themselves from the yoke of subjection, which they had never felt before.

The city of the Conception went on prospering, because of the great quantity of gold brought into it every day; by which means the minds of the inhabitants were elevated in proportion, and the soldiers grew wanton and insolent. The governor being tainted with the same disease of too much prosperity, neglected to take notice of these disorders; for the desire of riches increasing by riches, which they saw every day fill their coffers, they were less attentive to that which ought most to have drawn their attention, which was their own and the King's preservation, and so made way for that blow of fortune that laid them all along.

The Araucanos were as uneasy, and continually plotting how to compass their designs, and at last resolved to rise unanimously against the Spaniards, and take their revenge of them. To try how it would be taken they began to talk big, and carry themselves haughtily, more like masters of the land than like servants; they quarrelled with one and the other, and losing all respect drove the thing so far as to kill some Spaniards in these contests: and then perceiving that these things were dissembled, and that their boldness had its desired effect, they grew every day more insolent; and at

last being thoroughly satisfied that the Spaniards were neither gods nor immortal, nor of any other species than they, but subject to all human infirmities, they began to fear them no longer, but resolved to fall upon them.

CHAP. XIV. — *The City of Angol is peopled, and the Indians rise against the Spaniards.*

UPON occasion of the mines that were begun to be wrought in the district of Angol, the governor Pedro de Valdivia settled a city of that name there, which was also called the city of the confines. Some attribute this foundation to the Marquis of Cannette, Don Garcia Urtado de Mendoza, who governed after the death of Pedro de Valdivia: perhaps the reason of this is, that the situation of this city at first was three leagues from the place where it now stands: so it might be that Valdivia first settled it, and the Marquis removed it to the place it is now in, and that was ground enough to make him the founder.

The present situation is in a plain, very large and disengaged, eight leagues from the Cordillera, and twenty from the Conception; some say sixteen, which perhaps is caused by the difference of its two situations. Their longest day and longest night are of fourteen hours and a half. The land is very fertile; fruits ripen very well: there is good wine, and good store of raisins dried in the sun, figs, and other dried fruits; a vast quantity of tall cypresses, which yield a very sweet-scented wood, of which, Herrera says, there is made a gum-lac. The great river Biobio runs by it, and serves it for a wall and ditch on the south side; and on the north side another pleasant rivulet comes running from hills of a moderate height, and turns many mills for the use of the city. Those whom I have known that have been born in this city, have proved very gentle in their dispositions, of good wits, and noble inclinations, very friendly and real, and extremely loyal to the King, as indeed all the Chilenians are, looking upon that as the highest *punto* of their gentility.

Now let us return to the Araucanos, who were busy in calling together their assemblies there, to treat how to cast off the yoke of servitude, and make themselves masters of that which was truly theirs. So it was, that the Caciques being possessed with an opinion that their forces were not inferior to the Spaniards, began to call them together; and they needed no incitements of pay or money; for the love of their liberty, and possessions, and posterity, was a sufficient spur to them, thinking every day a year that kept them from engaging with their enemies, and conquering them. The Caciques that met were these: first, Tucapel, a great butcher of Christians, with three thousand soldiers; Angol, who was very brave, with four thousand; Cayocupil, with three thousand men, whom he brought from the Cordillera, as hardy as the rocks they came from, and made to endure any labour; Millarapue, an old man, of great wisdom, he brought five thousand; Paicavi, with three thousand; Lemoleno, with six thousand; Mareguano, Gualemo, and Leucopie, each with three thousand; the robust Elicuera, held for one of the strongest men, with six thousand, and they antient; and chief of all, Colocolo, with as many more. Ongolmo offered four thousand; and Puren six thousand; Lincoyce, who was of the stature of a giant, offered to bring more than any; Peteguelen, lord of the valley of Arauco, from whence the whole took their name, came with six thousand; and the famous Caupolican, and his two neighbours Thome and Audalican, and many others, kept themselves ready to come in with their subjects. They met, according to their custom, to eat and drink at their appointed

rendezvous, for that never is omitted in these assemblies; and having been unanimous in the first and chief point, which was to rise, there was some difference about the choice of a general, every one desiring to have that command, as it generally happens in such elections; every one alledging their particular merits; the one his valour, another his experience, another his good fortune, and none seemed to want a pretence for obtaining their desire. They grew warm in this ambitious contest, and would have come to blows, if the old and wise Colocolo, by his prudence and authority, had not quieted them, and reduced them to consent to choose Caupolican, not only as the bravest soldier, but the ablest chief. This done they all swore obedience to him, and promised to obey his orders, for the better carrying on of their common design.

The Spaniards had, as we have already mentioned, three castles for their security, and one of them was near the post where this assembly was kept; and the Indians, proud and impatient, had a mind to attack it immediately; but Caupolican, their general, forbid it, in order to do it with more dexterity and safety. He commanded Palta, who performed the place of sergeant-general, to choose him out four-score soldiers, of the bravest, and such as were least known to the Spaniards, and the Indians their friends: these he put under the conduct of two very brave men, Cayaguan and Alcatipay, and ordered them to enter the castle with their arms by this stratagem. The Araucanos, though in peace, were not permitted to enter the castle, except such as served the Spaniards; and these entered often with their loads of grass, wood, and other necessaries for the garrison. Caupolican ordered these four-score men to feign themselves to be servants of the Spaniards, and having hid their arms in the grass they carried, to answer nothing, but pretend they did not hear if they were asked any questions: they acted their parts to the life, some counterfeiting lameness, others weariness, so that they were all let in without suspicion; then they took their arms out of the grass, and fell unanimously upon the Spaniards, who were much astonished at so unforeseen a boldness. However, they gave the alarm, and all coming out of their quarters, resisted them, so as to kill some of the Indians: the others either out of fear of the Spaniards, or on purpose to draw them out of the castle in their pursuit, retired, on purpose to gain time till their general Caupolican could come up with his army; which he did with a very numerous one, and forced the Spaniards to retire to their fort. He besieged them in it, and after having killed many of them, those who remained alive were glad to leave the post, and get away, judging it better to retire to Puren, lest they should lose all; whereas being joined to the garrison of Puren, they might better resist the enemy, though he was very powerful, and much elevated.

The news of this invasion soon reached the Conception, and the governor Pedro de Valdivia, who was then there, began presently to consider how to remedy so great a mischief. Some blame him as tardy in doing of it; for to secure the treasure of the mines, where (as Herrera says) he had fifty thousand vassals at work to get gold for him. Before he went to succour those in Puren, he went out of his way, and stayed the erecting of a fort at the mines, which took him so much time, that he came later than was requisite to their relief. But, indeed, if any thing was ill done by him, it was the making too much haste; for without staying for the relief and succours he might have received from the other cities, he set out with a force not strong enough to encounter that of Caupolican: his courage deceived him; for being elevated with his successes, and trusting to his fortune, he ran into the precipice, as we shall shew in the following chapter.

CHAP. XV. — *The Governor Pedro de Valdivia, and all his People, are killed by the Indians.—The famous Action of Lautaro is related, that being the chief Cause of this Event.*

THE time of this great captain's death was now come; all things, therefore, seemed to concur to that end. The present remedy that was to be applied to this mischief, to stop its progress, and the delay of those succours he expected from the other garrisons, were all combining causes: his heart misgave him at his setting out from Tucapel. He had sent out parties to bring him an account of the state of the enemy, but none came back: this gave him some apprehension, but being engaged, it was necessary to go on. He had sent out scouts, as I said, and had scarcely gone two leagues on his way to them, but he saw the heads of two of them hanging upon a tree: this increased his fear, and he consulted with those with him, whether it would not be rash to proceed. The young men were of opinion, that it would be a lessening of their reputation to turn their backs to danger, though there came to them an Indian of their friends, and desired them not to proceed, because Caupolican was at Tucapel with twenty thousand Indians, and that the hazard they ran was manifest; but he followed on his way, and came within sight of the enemy: they soon engaged, and the battle was cruel on both sides, so that for a great while no advantage could be perceived, because the brave actions on both sides kept victory in suspense.

After a good while of this contention, the Spaniards began to prevail, and to cry *Viva Espanna*, or Live Spain; with which, recovering new vigour, the Indians seemed to give way, when (as Arzilla, in his *Araucana*, says) the famous Lautaro, an Indian, who had been bred page to the governor Valdivia, having more regard to the love of his native country and his liberty, than for the education he received, and the fidelity he owed his master, went over to the Indians, and spoke to them in this manner:—  
 “What is this, brave Araucanos? Do you turn your backs when your liberty is concerned, your country, your liberty, your posterity? Either recover your liberty, or lose your lives; for it is a less misfortune to die, than to live slaves. Do you intend to stain the glory of your ancestors, acquired for so many ages past, in one hour? Remember you are descended from those who gained that renown by resisting their enemies, and not flying from them; and such as feared not to lose both lives and fortunes to preserve their fame: drive away all fear, generous soldiers, and either live free, or die.”  
 With these words he so inflamed the minds of his friends, that, despising death, they returned with fury to invade those whom before they flew from. Lautaro, to encourage them the more, led them on, shaking his lance against the governor, his master; who, surprised at his action, cried, “Traitor, what dost thou do?” To which he answered only with a thrust or two, animating his people to do the same. This renewed the fight, and they all resolved, by the example and exhortations of Lautaro, to conquer, or die; which they performed with so much fury, that the concern of both sides was now at the highest, and the contention only who should venture farthest into danger. Many Spaniards and Indians fell on both sides, and Lautaro still encouraged his countrymen without any relenting. Valdivia did the same by the Spaniards, and shewed himself every where, in the greatest danger, without the least apprehension, though he saw many of the bravest of his men fall by the sword. One would have thought the Indians had but just begun to engage, to see how like lions they fell on, and begun to find victory incline to their side, till at last there fell so many Spaniards, that Valdivia was almost left

left alone. In this extremity, he went aside with his chaplain to confess his sins, that being the principal thing he had now to do. The Indians gave him but little time to make his peace with heaven; for a great troop of them fell upon him with darts and lances, killing the chaplain, and, taking him prisoner, they brought him alive to their general, for the last triumph of their victory.

This hitherto unconquered captain appeared in the presence of the great Caupolican, his hands tied behind him as captive, his face all bloody, though venerable. He asked his life as a favour; he who a little before had it in his power to grant it his enemies. He turned his eyes towards his Lautaro, and, with their language, seemed to desire him to intercede for him who had been his lord and master, and by whose means he was in this extremity. He promised Caupolican, if he might have his life, to withdraw all his forces, and leave the country free from their incumbrance. He made oath of this several times, and persuaded with so much eloquence his hearers, that Caupolican, who was as generous as brave, began to relent, and incline to compassion. But the greatest part said it was madness to trust to any words or promises of a captive, who was forced to humble himself; but that when he should be free, he would do that which should be most for his advantage. However, the dispute between them increased, and no doubt but Lautaro would have inclined to mercy; for if he fought against his master, it was not out of any hatred to his person, but out of the great kindness he had to his country, which, with the desire of liberty, prevailed over the gratitude he owed for the good usage he had received at his hands; but nothing of this was able to appease the vulgar, though Caupolican was inclined to clemency; so they forced him to pronounce his death, and to execute it immediately in hot blood, though they differed in the manner of it; for some say that they poured melted gold into his mouth, bidding him once for all content his thirst for that metal which he had so insatiably coveted: others say, that one of those Caciques, bearing impatiently that it should bear a question whether he should live or die, gave him a blow on the head with a club; which Caupolican resented highly, as a want of respect to him. That which I find most probable is, that according to the custom of the Indians, they made flutes and trumpets of the bones of his legs and thighs, and kept his head as a testimony of so remarkable a victory, and to animate their youth to undertake the like actions, as they might see by this their fathers had done. Thus I have heard it related.

Of all the Spanish army, it is said there escaped only two Indian friends, who, taking advantage of the obscurity of the night, hid themselves in a thicket, from whence creeping out as well as they could, they came to the Conception, and brought the news of this fatal event. The city was immediately full of confusion and complaints, the women crying and bewailing the loss of their husbands and sons, others that of their fathers and relations, and altogether the common calamity of their city, in which they were all equally concerned.

## CHAP. XVI. — *What happened after the Death of the Governor Pedro Valdivia.*

THE enemy having obtained so remarkable a victory, their general Caupolican commanded the retreat to be sounded, and called a council, to consider whether, or no, it would be best to follow their blow warmly. Many were of opinion it would be most expedient to fall upon the cities immediately, before they could prepare for them; yet Caupolican, after having heard them all, resolved to do otherwise. It is better, said

he, to expect our enemies in our own homes, than to go to seek them at theirs, where all men fight with more valour; let them come to seek us in our mountains and bogs, where we are sure of a safe retreat: let us give our enemies a free access to us, who have our situation to befriend us; and, in the meantime, our horses and soldiers may refresh themselves: and if they out of fear (which I believe they will not) do forbear to seek us out, we may attack them when we will. Having spoke thus, he took Lautaro by the hand, and having publicly commended him, by attributing to him the victory and the liberty of his country, he, by consent of all, made him his lieutenant-general, and gave him leave to chuse out the men he would have to serve under him, to go and pitch upon a fit post to expect the Spaniards in. Lautaro was no very tall man, but well set, and strong, industrious, cautious, of good counsel, gentle, and well-proportioned, very brave, as we have seen, and shall see hereafter.

To celebrate this victory, the Indians solemnized public games of wrestling, running, leaping, and other proofs of their strength and dexterity: they made also great feasting with dancings, and for several days did nothing but rejoice and be merry; but still without forgetting to be upon their guard, as men that expected their enemies whom they presumed desirous of revenge.

Francisco de Villagran was lieutenant-general to Valdivia when he was killed; who remaining chief in command, assembled all he could to go and take vengeance of the enemy for this defeat. Setting out, he came as far as Arauco; and being come to a high mountain in the way, he found Lautaro on the top of it, with ten thousand men, without having sent out any to disturb the Spaniards' march; for he had left all the passes easy, to oblige them to come to that place: it was not far from the sea, which washed the foot of the mountain on one side; the coming up on the other side was easy; all the rest was precipice; but the top was a plain fit to draw up in, and very proper for his design.

The Spanish general being in presence, the armies began to draw up on both sides; and, not to make the Indians too presumptuous, he ordered three troops of horse to begin the charge, in hopes to draw the Indians from their post, but in vain; for though they made three attacks, yet Lautaro would not stir, but received them with showers of arrows, stones, and darts, which made them retire faster than they came on. Our people, who could not break this battalion, with the evident danger of falling into precipices, did what they could, but with little effect, only tiring their horses; for the enemy kept his post, not a man of them stirring out of his rank; only Lautaro would permit some of the bravest to go out, and defy the Spaniards body to body. There came forth, among the rest, a brave youth, called Curio-man, who taking a long career, would throw his lance with that dexterity, that he wounded many of the Spaniards: he did this seven times, and, at the eighth, Villagran, being vexed at his importunate boldness, commanded a famous soldier, called Diego Lano, to chastise the Indian's insolence, which he did; and it was all his high courage and strength could perform. The Spaniards seeing themselves tired, and that all the movement of their horse signified little, and that the Indians were taking the passes behind them, began to use their small shot, which at first made a great slaughter among the Indians. Lautaro, to remedy this inconvenience, commanded Leucaton, one of his captains, to attack the Spaniards on the flank, and not to stop till he came up close with their musqueteers, that by this means mingling with them, they might avoid their small shot, which, in that case, could not be of any use to the Spaniards, without wounding their own men too. This he observed, and they ever since have practised the same with good success; and without this boldness, in which they always lose some men, they would be much inferior to the

Spaniards, they having no fire-arms to use in the like manner : they shew in this their invincible courage, and undisturbed bravery, by which they make to themselves a defence of their own enemies ; for being once mingled with them, they cannot offend them, without destroying, at the same time, their own people.

The fight on both sides was bravely maintained, Lautaro relieving and encouraging his men, as Villagran did his, both of them doing the parts both of general and soldier, and exposing themselves to the greatest danger. He that signalized his valour most on our side, was the famous Captain Pedro Olmos de Aquillera, killing with his own hand four of the chiefs of the Indians. Our army was encouraged with his valour, which he inherited from that noble family so spread in Andalusia : he was seconded by the Bernales Pantoias, Alvarados, and many others, who performed wonders in this battle, which was long contested, very bloody, and in suspense to the last. The enemy was much superior in strength to our forces, and, therefore, the victory began to incline to their side ; for though Villagran the general, and some others, would rather have chose to die there with honour, than turn their backs, yet the greatest part judging that there was no honour lost in a vigorous retreat, and that it would be rashness to persist in so desperate a case, they began to retire, fighting and defending themselves ; but the enemy, elevated with this success, followed close, and having knocked Villagran off his horse, they had made an end of him, if he had not valiantly defended himself till thirteen of his men came to his relief.

These famous commanders did not obtain less glory in this retreat, than if they had gained a victory ; for the enemy following them for six leagues together, being a hundred to one, and having seized upon most of the passes, and the numbers still increasing, yet the Spaniards made a noble defence, and killed many of them. Those who escaped from this engagement, came with the sad news of the ill success to the city of the Conception, which set all the inhabitants in an uproar, mingled with lamentations and cries, every one being in some measure concerned in the calamity ; for between Spaniards and friendly Indians, there died in this engagement two thousand five hundred. One would have thought the day of judgment had been come, to see the confusion that was in the city upon this news ; one laments the death of his father, another of her husband ; some cry for their sons, some for their brothers ; the women wring their hands, pull off their hair, fill the air with lamentable cries ; the children cling to their parents, asking for their lost fathers, which is more grievous to them than daggers. In the midst of these horrors, night came on, in which no one could shut their eyes, for the memory of their misfortunes keeps the soul attentive, without any consolation.

CHAP. XVII. — *Lautaro sacks the City of the Conception ; and Caupolican besieges the City of the Imperial, which is defended by the Queen of Heaven.*

MISFORTUNES seldom come alone ; and so it happened to this afflicted city, which, instead of receiving comfort from the approaching day, no sooner did it appear, when the noise of drums and trumpets gave a warm alarm of the enemies being at hand. Here the confusion increased ; for now the concern was not for the loss of others, but for every one's own safety, the danger was threatening them so immediately : there was nothing but disorder, no counsel nor resolution being to be found in the wisest : they could not defend themselves, because they were so overpowered in numbers by the enemy ; and the retreat, though necessary, was difficult, because of the approach of

the Indians. In this hard conflict, at last the resolution that prevailed was to abandon the city, without pretending to save any thing but their lives. They leave the city then, and all the gold they had got together in such quantities. They go out in long files, the mothers helping their little children along: the way that they undertook, was to the city of St. Jago, a long one, in which many rivers were to be crossed, and hard passes to be gone through: this labour was accompanied with the perpetual fright of the enemies' pursuing them. Who can relate the hardships of hunger and other sufferings, through so long a tract of mountains, deserts, and uninhabited countries? How the women, the children, the old men, could bear this fatigue, we must leave to imagination to represent the true idea of these misfortunes! Let us therefore return to the Indians. The Spaniards had hardly made an end of abandoning the city, when the Indians entered into it; and not being able to execute their rage upon the inhabitants, they did it upon the houses, to which they set fire, and consumed them to the very foundation, killing even the very animals which the Spaniards left behind them. Thus was lost the city most abounding in gold, and situated in the most populous part of the Indian country; for it is said there were not less than a hundred thousand Indians, with their families, who were all employed in gathering gold for the Spaniards, whom they enriched to that degree, that Pedro de Valdivia, if he had lived, would have had fifty thousand crowns of gold a-year, and others twenty and thirty thousand.

This burning of the city being over, news was brought, that Caupolican had called a great assembly in Arauco, which made Lautaro return with his people to be at it. When the two generals of the Araucanos met, they greeted one another for the victories obtained over the Spaniards; and, in sign of triumph, one hundred and thirty Caciques, all dressed themselves in the Spanish dress, with the cloths they took from the Spaniards killed in the battle. The general had Valdivia's cloths, which were, as it is reported, of green velvet, laced with gold lace, a back and breast of well-tempered steel, and a helmet with a great emerald for crest. All having seated themselves in order by the general's command, he proposed to them the design of conquering back all that was gained from them by the Spaniards, who now were so dejected with their loss. They all agreed to his desire, every one delivering his opinion with great pride and arrogance. It is said, that the old and prudent Colocolo, hearing them deliver their opinions with so much insolence and presumption, that it looked as if all the world was too weak to resist their valour, humbled them a little, by putting them in mind, that if they had obtained two victories, the Spaniards had gained many more over them, and had made them serve as slaves; therefore, that they ought to behave themselves with moderation and temper, that they might expect success from their arms; and added, that it was his opinion, that they should divide their forces into three parts, and, at the same time, assault the city of the Imperial.

Puchecalco, a famous conjuring Cacique, following the same thought of humbling the intolerable haughtiness of the assembly, told them, that they might give over their presumption, for he was to acquaint them, that, having consulted his oracles, they had answered him, "that though at present they were so victorious, yet at last they were to live under the Spanish yoke in perpetual slavery." The Cacique Tucapel could not bear to hear this; and rising from his place, with his mace of arms gave him such a blow as took away his life. The general was highly offended at this insolence, and, being resolved to chastise the author of it, the whole assembly was disturbed; and though they all endeavoured to lay hold on the murderer, yet he defended himself so well with his mace of arms, that it was not easy to seize him: but Lautaro, who had

great power with the general, made up the whole business; and the result of the council being to besiege the city of the Imperial, they immediately put it in execution.

Their army took its post three leagues from the Imperial; which city, though it had a good garrison of brave men, was not nevertheless prepared nor provided for a siege with ammunition and victuals, because the enemies would have taken it, if any had been sent to it; but the Queen of Heaven delivered them from this great danger. The enemies drawing near the city, there arose on a sudden a mighty storm of hail and rain, with black clouds; and their Epunamon appeared to them in the form of a terrible dragon, casting out fire at his mouth, and his tail curled up, bidding them make haste, for the city was theirs, being unprovided: and that they should enter it, and put to the sword all the christians, and so disappeared: but as they were pursuing their design, animated by this oracle, on a sudden the heavens cleared up, and a very beautiful woman appeared upon a bright cloud, and shewing them a charming, but majestic and severe countenance, took from them the pride and haughtiness inspired into them by their first vision, commanding them to return to their own homes, for God was resolved to favour the christians; and they obeyed immediately. To which the author who reports this story adds, that the whole camp saw the apparition, which was on the 23d of April, and that all agree in this.

CHAP. XIX. — *The City of the Conception is rebuilt; and Lautaro having taken it a second Time, marches to take the City of St. Jago, where he dies.*

THE Spaniards being in safety, began to think of returning to the Conception, and rebuilding of it. To this end they raised men at St. Jago, and with great difficulty compassed their intention, making a good fortress within the city for their better security. The Indians of the neighbourhood, though they were in their hearts as averse as any others to be commanded by strangers, and to let them build cities in their territories, dissembled nevertheless at present, but in due time gave advice to Arauco, desiring help to drive out these new comers, or make an end of them at once. Lautaro came to them presently with a good army; and some companies of Spaniards, which went out to encounter him, were forced to retire to the fort they had made, in which they defended themselves as long as they were able to withstand the force of Lautaro; but at last being overpowered, they were forced to retire a second time to the city of St. Jago. Many Spaniards were lost, and Lautaro followed the pursuit, in which many brave actions were performed on both sides: among the rest, a famous Indian captain, called Rengo, following three Spanish captains who were retiring, called them cowards, and said a hundred insolent things to them, which moved one of them to attack him at the passage of a river; but he secured himself by choosing a strong post; so the Spaniards went on to St. Jago, and Lautaro retreated to Arauco, where great rejoicings were made for this new victory.

The Indians renewed their meetings; and being much elevated with their success, they came to a resolution of not troubling themselves with the lesser cities, which they reckoned as their own; but to attack the capital of St. Jago. Lautaro offered to undertake this enterprize; and chusing the most warlike among them, he marched with a powerful army. He passed the rivers Biobio, Itata, Maule, and Mataquito; near this last he raised a fort to secure his retreat, if need were, he being engaged far from his own territories.

When the news of this resolution came to St. Jago, many looked upon it as a fable, not being capable of imagining that the Indians had boldness enough to march so far to attack them; but those who were come back from the city of the Conception undeceived them, as knowing by experience Lautaro's courage; they therefore fortified the place, and provided it: they also sent out parties to engage the enemies, if the occasion offered: but Lautaro forced them to return in haste to carry the news, and yet some remained behind too.

Francisco de Villagran, the lieutenant-general, was sick at this time; and so sent his cousin Pedro de Villagran, with all the force he could make, to meet Lautaro; they lodged within half an hour from the fort which the Indians had raised upon the Rio Claro; the next day they entered the fort without any resistance; for Lautaro had cunningly ordered his men to seem to fly, that he might catch the Spaniards in the fort; and so, when he saw his time, he gave the signal, and his men fell on the Spaniards like lions, who had enough to do to make their retreat, and escape from their hands. The Indians followed them for a league, doing them much mischief, though they defended themselves with great valour. Lautaro feigned a second time to fly; and our people being reinforced, engaged him a-fresh. They attacked his fort, and gave three assaults to it; where they were received with showers of arrows, darts, and stones, and at last forced to retire to a valley; whence they designed to return, and try their fortune again: but Lautaro saved them the trouble; for resolving to make an end of them all at once, and in order to it feigning that he wanted provisions, he sent to our camp to demand some. His project was to let in a river upon the Spaniard's camp, which he could do conveniently, because it was already in dams and canals; and so having made a marsh of the ground where they lodged, so as they should not be able to stir, seize all the passes behind them. But Villagran having discovered this stratagem, raised his camp, and retired to St. Jago, to the great disappointment of the enemy.

Yet this did not make Lautaro give over his design; for considering that he could not attack St. Jago, which was well provided with men and ammunition, except he had a greater strength, he raised a fort in a valley to cover himself, while his succours should arrive, and enable him to attack St. Jago. Those of the city were making, with great care, preparations for their defence; and had sent for succours to all the other cities. Their general Villagran had sent out upon this design; and making as if he was going to Arauco, had on a sudden marched to the Imperial, from whence he brought many good men away with him; and while Lautaro was raising his fort, Villagran, guided by an Indian, came swiftly and silently upon Lautaro, and attacked his fort. In the first assault that was given, Lautaro himself fell, wounded by an arrow which struck him to the heart; thus ended that valiant captain of the Araucanos. His soldiers were not at all discouraged with this misfortune of their general; but rather enraged with such a loss, and a desire to revenge his death, they fell like lions upon the Spaniards, taking no quarter at their hands. There were on both sides great actions performed; but the resolution of the Indians was the noblest in the world, preferring their glory to their lives, which they husbanded so little, that though they were broke, and but few left in a fighting condition, yet they ran upon the Spaniards' lances, and with their hands pulled them into their bodies, to come close to their enemy, and revenge their death with his, or at least die in the attempt.

CHAP. XXII. — *Don Garcia Hurtado de Mendoza comes to the Government of Chile ; — what happened at his Arrival, and in the Engagement he had with the Araucanos.*

AFTER the death of Pedro de Valdivia, there was application made from Chile to the viceroi of Peru, who is to provide a governor till the king can send one, that is, both president and governor independent of Peru. The viceroy at this time was Don Antonio Hurtado de Mendoza, marquis of Canete, who governed with great zeal and a prudent severity, making exemplary punishments where they were necessary, by which he secured the country. He had then with him his son Don Garcia Hurtado de Mendoza, who afterwards succeeded him in his viceroyship, with as much applause and esteem of the world. The embassadors from Chile desired him of his excellency the father for their governor, which he granted. King Philip the second had appointed the Adelantado Hyeronimo de Alderete, to succeed the governor Pedro de Valdivia, whose death was known at court ; but the news came likewise that Alderete was dead at the island of Taboga near Panama. The viceroy's son having raised a good body of horse, sent some of them by land with the horses, and he embarked with the rest ; and after a hard storm, in which they had like to have been all lost, he arrived in the bay of the city of the Concepcion, and landed upon the island of Quiriquina, to inform himself from thence of the state of the country. The people of the island, who were fierce and warlike, took arms when they saw the ships draw near the harbour, and pretended to hinder the Spaniards from landing ; but having no fire-arms, as soon as the cannons of the ship began to fire, they gave way. As soon as the governor landed he published the design of his coming, that the Indians might know it : which was, to save their souls by the predication of the gospel, and reconcile them to God by the means of baptism ; and to confer that sacrament, he had with him religious men of the famous orders of St. Francis and Mercede : that if they would submit to that, he would treat with them in the name of the emperor Charles V. This declaration reached the ears of the Araucanos : and there assembled at Arauco sixteen caciques, and many other captains, to treat about what was best for them to do in this case ; and though many youthful and arrogant speeches were made, according to their usual haughtiness, which made them despise all good counsel and peace, yet the old and prudent Colocolo restrained their pride with prudent reasons, and persuaded them to treat with the Spaniards, since they were by them invited to do it. " It cannot hurt us," said he, " to hear them ; we shall have our forces as strong still to maintain our right, if they demand unjust things." This opinion was followed by the most prudent among them ; and they sent for their ambassador the Cacique Milalan, a man of great rhetoric and eloquence among them, giving him order to treat with the Spaniards, and observe well their strength ; and that he should show inclinations to peace, to draw them to land on the continent, and forsake the island, hoping that the desire of gold would tempt them to go further into the country. Milalan came to the governor's tent : and making a small but civil bow, saluted him, and the other Spaniards that were with him ; then with a cheerful countenance he delivered his message. He said, " that his countrymen admitted the terms of peace that were proposed, and should observe those of friendship ; not out of any terror or apprehension caused in them by the arrival of these new forces : for no power was great enough to terrify them, having sufficiently experienced their strength in the success they had hitherto had : but that which moved them was the compassion they had for so many innocent people, so many women and

children, who, upon occasion of this war, remained widows and orphans: that upon fair terms they would own the King of Spain, upon condition that he did not concern himself any ways with their liberty or rights; that if they had any thought of acting by violence, and making them slaves, they would sooner eat their own children, and kill themselves, than suffer it."

The governor answered him with all assurance of as good treatment as they expected; and having made him some presents, dispatched him back to give an account of his embassy: but this was not sufficient security for either side; so they remained upon their guard. The Indians observing the caution of the Spaniards, to give them more security, feigned to dismiss their forces, but secretly gave them orders to stand upon their guard, and not lay down their arms, but be ready upon any occasion that might happen; yet the Spaniards for all this did not think fit to land upon the continent, but stayed two months upon the island where they first landed, till the winter was entirely over. About the spring, they set on shore about one hundred and thirty men of the bravest among them, to raise a fort, as they did, upon the top of an hill which overlooks the city of Penco (otherwise called the city of the Conception). Under the protection of this fortress, the rest of the Spaniards went out of the island, hoping that in a little time, their horses, which were coming by land, would arrive, having some news of them; in the mean time they cut wood and fascines to fortify their camp, the governor and the commanders shewing an example to the rest in the labour of intrenching themselves, and cutting of wood, as if they had never done any thing else all their life-time. They brought it to perfection in a little time, and planted upon it eight field-pieces, with all other necessary provisions for their defence.

The Araucanos, who were watching their motions, no sooner saw them busy in their fort, but, without expecting any further proof of their intentions, which they took to be for war, called immediately an assembly, and with all their strength came like lions, with a resolution to demolish the new fort. They took up their post at Talcaguano, about two miles from the Spaniards' fort, and about break of day they gave an alarm, and having first challenged out many Spaniards to single combat, they at last fell on in a body, with no more fear of the cannon-bullets than if they had been of cotton or wool, knowing, that though they received at first some damage, it could last no longer than till the battalions were engaged. With this resolution they fell on like lions, and some of them got over the fortifications; amongst whom was Tucapel, who did wonderful actions. Neither were the Spaniards unprepared for them, doing extraordinary things, which it were too long to describe in particular, though the actions were such as very well deserve it.

The Spaniards who were in the island and aboard the ships, hearing of the danger of their companions, came to their assistance, and by the help of God, who aided them, joined their friends: and then thus united they began to prevail over the Araucanos, who, finding themselves inferior, and having lost many of their bravest men, began to retreat, all but Tucapel, who having stayed last, and being sorely wounded, yet made his escape from the Spaniards, whom he left full of admiration of his valour and resolution.

About this time the horses which came from St. Jago arrived, and with them a troop of good horsemen from the Imperial. The enemies mustered all their forces, and the Spaniards went to seek them in the valley of Arauco, where they had another very bloody engagement: the Araucanos fled, or rather retired; and the Spaniards having taken one prisoner called Cualbarino, they, in order to terrify the rest, cut off both his hands; but the Araucanos were so far from being terrified by it, that this enraged

enraged them the more; for Gualbarino himself being returned to his countrymen, went up and down, begging them to revenge the injury done to him, which they all looked upon as their own. Caupolican their general sent to challenge the governor Don Garcia with all his strength, telling him, that he would stay for him in his camp, which he moved near the Spanish camp, which was at Millarapue. He came over night; and the next day presented them battle; which was as well disputed as the rest, both sides fighting with extreme valour. The Indians pressed the Spaniards so hard, that victory had declared for them, had not a Spanish battalion, in which alone remained all the Spaniards' hopes, charged so desperately among the Indians, that they were forced to retire, and leave the field to the Spaniards; but their retreat was with great honour and reputation. It is related, that in this engagement some of the neighbouring Indians were made prisoners: and that though they were put to a most exquisite torture, to force them to reveal something that the Spaniards wanted to know, yet they remained constant and true to their country, as if they had been insensible of pain. The Spaniards had here a considerable advantage; for, besides many dead enemies whom they left upon the spot, they took twelve prisoners of the chief among the Indians, whom they hanged upon so many trees for an example to the rest; and among them that same Gualbarino; who not only shewed in dying an intrepid mind, but encouraged the others: and among the rest a Cacique, who began to fear and beg his life; to whom Gualbarino spoke before all with so much haughtiness, taxing his base cowardice as if he had been the conqueror, and not the conquered, which struck the Spaniards with such admiration, that they were beside themselves.

From this place our camp marched to the valley where Valdivia was lost. Here the Spaniards raised a good fort; from whence they made their excursions upon the enemy, endeavouring to advance their conquests, but not without danger of being often cut off; particularly the hazard they ran at a narrow pass, caused by the mountains on the way to Puren, where they were attacked by the Indians, and very hard set by them, whom they might have destroyed if they had not fallen to plunder the baggage; for a company of Spaniards observing this miscarriage, seized on a spot on the top of a hill, from whence with their small shot they so galled the Indians below, that they fled in confusion to avoid such a tempest, leaving the Spaniards masters of the field, but much weakened: having been sorely handled in this rencounter, they retired to their camp, where they were received with great demonstration of joy. After this, leaving a good garrison in the fort, well provided for two months, the governor went to visit the other cities, to strengthen them, and provide them with necessaries against all attacks, which they had reason to fear; for Caupolican, enraged that in three months he had lost three victories, had called a general assembly; where it was resolved never to give over, but either die or conquer, that they might drive out the Spaniards, and restore their country to its liberty.

#### CHAP. XXIII. — *More Events of War. — The Death and Conversion of Caupolican.*

CAUPOLICAN followed his designs, but fortune seemed to be weary of assisting him; for in most rencounters he came off either worsted, or entirely defeated, and the victory snatched out of his hands when he thought himself sure of it: this made his people begin to grow weary of his command; and the vulgar began to censure his conduct as too remiss, and that the desire of preserving his power, and being general, made him neglect opportunities of putting an end to the war.

Caupolican being informed of these suspicions of his own people, called a new assembly, in which he proposed methods of carrying on the war, so as they might obtain an entire liberty. This was unanimously agreed to, with a firm resolution of not giving it over till they either conquered or died. This resolution coming to the knowledge of the governor Don Garcia Hurtado de Mendoza, who was gone, as we have seen to the city of the Imperial, to fortify it, he dispatched to the fort advice of what passed, and sent them a competent relief.

Amongst other designs pitched upon by Caupolican, the first was to surprize the Spaniards in their fortrefs by a stratagem before they were aware of him, and so master the place. The other captains of repute, Rengo, Orompello, and Tucapel, who were used to lead always the van-guard, did not approve of his project; and so let him go by himself with his own forces, they scorning, as they said, to obtain a victory by fraud or surprize. Caupolican set out then by himself; and being come within three leagues of the Spanish fortrefs, he sent out his spies to observe their disposition, and how they might be most easily circumvented. He chose for this purpose one of his best captains, whose name was Pran, a cunning sagacious man, and prudent, with a great deal of ready wit. This captain disguised himself; and putting on the habit of an ordinary Indian, he went alone, and without arms, as a private person, to the fortrefs of the Spaniards. He entered the fort without suspicion, or being known by the other friendly Indians, with whom he soon grew acquainted; and walking up and down, he observed our camp and forces, and took particular notice of the time of day that our men used to be least upon their guard, which was generally at noon, when they went to sleep, to repair their strength, which was wasted by their night-watches.

There was in the Spanish fort a young Indian, (not like Lautaro, in whom the love of his country prevailed over his duty to his master,) but of another temper; his name was Andres, servant to a Spanish gentleman, and very much inclined to all the Spanish nation. Pran had made a great friendship with this young man; and one day, as they were going together in the fields to seek out some provision, as they used to do, talking from one thing to another, Pran discovered himself entirely to his friend Andres; persuading him to help on the design he came about, since upon its success the liberty of the whole nation depended. Andres, who was not less sagacious and prudent than Pran, promised him all he could desire: but dissembled all the while. This being settled, they agreed, that each of them should return home to his camp, and that the next day Andres should come to a certain post they agreed on, and there Pran should meet him, and carry him to Caupolican's quarters, where he might settle all matters with him. Pran went back to the Indians' camp, overjoyed that he had succeeded so well, as he thought: he gave a particular account of all the business to Caupolican, while Andres did the same to Captain Reynoso, who commanded in the Spanish fort. If God Almighty had not by this way delivered the Spaniards out of this imminent danger, they must have perished; for naturally Andres ought to have been of the side of his own countrymen.

According to what been agreed between them, Andres came the next day to the assignation, where he met with his friend Pran; and they went together to Caupolican, who received them with all demonstrations of joy and confidence, shewing him his camp and all his army; the result was, that he should assault the Spaniards the next day about noon. Andres went back to the Spaniards, to inform them of all that passed, and by that Captain Reynoso knew how to dispose every thing to receive the attack. Caupolican came at the time appointed with all his Indians, the greatest part of which were

were suffered to enter, the Spaniards making as if they were asleep; but on a sudden, upon a sign given, they rose up like lions, and making a furious discharge on those entered, the horse fallied to engage those who had remained without, of whom they made a great slaughter. The surprize of the Indians was so great, that few of them could make their escape; but Caupolican, with ten more, saved himself by bye-paths, though he was hotly pursued; the Indians that were overtaken, still denying they knew any thing of him, and neither threats nor gifts could oblige them to reveal what they might know before.

But it being very hard there should not be one traitor among many loyal men, the Spaniards light at last upon one of his soldiers, who was discontented that he had not been advanced according to his pretensions, who betrayed to them where he was: this man guided them by a secret path to a place where they could not be discovered, and from thence shewed them a very thick wood, about nine miles from Ongolmo, where in a thicket by a river side, over a precipice, this brave man had hid himself till he could get a new army, and rally his men.

The Spaniards came upon him on a sudden, and surprised him with the few that were with him; and though he did all that was in his power to defend himself, yet they mastered him. His wife seeing him a prisoner, and his hands tied behind him, called him coward, and used all the opprobrious language to him that was possible.

Caupolican was deservedly among the Indians the most valued of their generals; and accordingly, in an assembly of sixteen Caciques, all sovereign lords, who met to raise an army against the Spaniards, he had the chief command given him. This was the man who, with fourscore bold fellows, surprised the castle of Arauco, and overcame the Spaniards in a bloody encounter without the city walls: this was he who durst expect the general Valdivia in open field, and routed him and his whole army, so as there was not one Spaniard left alive: this was he who destroyed Puren, and sacked Penco, not leaving one stone upon another in it, the Spaniards having been all frightened away by the terror of his name: this, in fine, was the man who managed all the war with such success, by his military skill and valour, that his authority was every where respected. This great man was now, by the means of a traitor, delivered up to his most cruel enemies. In this calamity he shewed no baseness; for though he begged his life, it was in a grave way, promising, in return, to cause all the country to submit to the King of Spain, and to give way to introduce the Christian religion. "Consider," said he to Captain Reynoso, "that what I promise, I am able to perform, by the great veneration that all my people have for me; and if thou dost not accept of this proffer, thou wilt do nothing; since for one head taken away, there will rise up a hundred Caupolicans to revenge my death, that the true one will not be missed. I desire not to be set at liberty, but to remain thy prisoner till I perform my promise."

All these reasons were of no use to Caupolican, for he was publicly sentenced to be empaled alive, and shot to death with arrows, for a terror to the rest of the Indians; though, as time has since shewed, this had no other effect, than to light the fire of war more and more, and make the wound almost incurable. He heard this hard sentence without any alteration in his countenance; but he desired with great concern to be baptized. The priests are sent for, and, after a short instruction, he receives the holy ablution, and the character of a Christian. After this, the sentence was executed upon him, which he endured with great constancy.

*The Conclusion.*

THOUGH Father Ovalle has continued, in the remainder of his treatise, to give an account of the various events of the war with the Araucanos, in which narrative he runs through the commands and actions of all the governors of Chile, to the peace made with that nation; yet it being by him more a piece of courtship to his nation, and to those families, than an information instructive to a foreign reader, it has been thought proper to take the death of that great general Caupolican for the first natural period of that war. In the course of the remaining narrative, there are so many superstitious notions inculcated, so many improbable miracles given for the foundation of great enterprizes, and such a monkish spirit runs through the work, that here, in England, it would rather prejudice than recommend the impression, and is therefore omitted.

ABRIDGED NARRATIVE OF TRAVELS  
THROUGH THE  
*INTERIOR OF SOUTH AMERICA,*

From the Shores of the PACIFIC OCEAN to the Coasts of BRAZIL and GUYANA,  
descending the RIVER OF AMAZONS;

As read by MR. DE LA CONDAMINE, Member of the Academy of Sciences at Paris, at a Sitting of  
that Academy on the 28th April 1745.

AT the close of March 1743, after a residence of six months in a desert, at Tarqui, near Cuenca, in Peru, during which I had incessantly, night and day, to contend with an atmosphere unfavourable to astronomy, I learnt from Mr. Bouguer, then near Quito, at the northern extremity of our meridian, that he had there made a series of observations of a star, intermediate between our two zeniths, of which observations many were effected on the same night: this star had been observed by me at the southern extremity of the line. By these simultaneous observations, on the importance of which I had laid much stress, we attained the singular advantage of being enabled to ascertain precisely, and beyond dispute, the real amplitude of an arc of the meridian of three degrees, the measurement of which was known to us geometrically, and this without having any thing to apprehend from variations, whether of an optical or a real nature arising from the motion of the star, on account of its position having been fixed at the same instant of time by the two observers at the opposite extremities of the arc. Mr. Bouguer, arriving in Europe some months before me, communicated the result at the last public meeting of the society, a result corresponding with that of the operations at the polar circle \*; as this, with that of the last effected in France †, all conspiring to prove that the earth is a spheroid flattened towards the poles. Taking our departure in the month of April 1735, twelve months earlier than the academicians dispatched to the north, we reached Europe, on our return, by seven years too late, to communicate any thing new respecting the figure of the earth. This subject, since then, has been treated by so many able hands, that I trust for excuse in referring to the memoirs of the academy the detail of my individual observations on the matter, renouncing the privilege, but too hardly earned, of addressing this assembly on that head.

Neither shall I enlarge here on other academical labours, either individually undertaken, or in common, during our voyage from Europe to America, at the different places of our sojourn after arriving in the province of Quito, and during the frequent intervals occasioned by obstacles of every kind, which but too often delayed the progress of our operations. To dilate on these, irrelative as they were to the measurement of the earth, would require extracts from a number of memoirs, which in the space of

\* Effected by Messrs. Maupertuis, Clairaut, Camus, and Monnier, of the Royal Parisian Academy, in conjunction with the Abbe Outhier, a correspondent of that academy, and M. Celsius, astronomical professor at Upsal.

† By Messrs. Cassini de Thury and L'Abbe de la Caille.

seven or eight years have been forwarded to the academy, but of which some have not arrived in France, while many others have not hitherto appeared, nor even extracts of them, in our collections. I shall refrain therefore from speaking now, of our astronomical or geometrical conclusions on the latitude and longitude of a great many places; of our observation of the two solstices in December 1736, and in June 1737; of the obliquity of the ecliptic which they determine; of our experiments on the thermometer and barometer; on the declination and dipping of the needle, on the swiftness of sound, on Newtonian attraction, on the length of the pendulum in the province of Quito, at different heights from the level of the sea, and on the expansion and condensation of metals; I shall carefully abstain from notice of the two journeys made by me, the one in 1736, from the coast of the South-Sea to Quito, ascending the river of Emeralds; the other in 1737, from Quito to Lima.

Finally, I shall not advert here to the history of the two pyramids which I caused to be erected for the purpose of determining in perpetuity the two extremities of the fundamental base of all our measures, and of thus remedying those inconveniences which were but too lamentably experienced in France, from want of a similar precaution, when the base of M. Picard was to be verified. The inscription proposed to the Academy of Belles Lettres, before our departure and afterwards, with those alterations which circumstances of time and place required, placed on the pyramid, was denounced by the two lieutenants of the navy of the King of Spain, our coadjutors, as offensive to His Catholic Majesty, and the Spanish nation. I defended, for two years, a law-suit instituted against myself personally on this score, and at last gained it, though opposed by the parliament of Quito. What passed on this occasion, and divers other interesting events on our travels, which distance has much disfigured, are better calculated to form an historical narrative than an academical memoir; in this I now present I shall confine myself to what relates to my return to Europe.

In order to multiply our opportunities of making observations, M. Godin, M. Bouguer, and myself, planned different routes for our return. For my part I resolved on selecting one, almost unknown, and such as I felt persuaded no one would envy me, that of the river of Amazons, a river which crosses the whole continent of South-America, from west to east, and which justly passes for the largest in the world. I proposed to render a voyage on this river of utility, by forming a chart of its course, and by remarks on such objects as a country so little known might afford. Such as relate to the manners and singular customs of the nations which inhabit its banks, would doubtless be most gratifying to the majority of readers; but, in presence of an assembly with whom physics and geometry are familiar, I deem it inadmissible I should dilate on matters foreign to the object of its meeting: nevertheless, that I may be better comprehended, I cannot dispense with giving some preliminary notion of the river in question, and its first navigators.

It is commonly believed that the first European who discovered the river of Amazons, was Francis d' Orellana. He embarked in 1539 on the river Coca, in the vicinage of Quito, a river which somewhat below assumes the name of Napo; from this river, he descended into one of larger size; and, suffering his vessel to be carried along constantly by the current, he arrived without any pilot at the North Cape, on the coast of Guyana, after a voyage, by estimation, of 1800 leagues. The same Orellana perished ten years afterwards, together with three vessels entrusted to his command by Spain, without ever being able again to find the true mouth of the river. A rencounter which he states to have had with certain armed women, against whom an Indian Cacique had previously warned him, occasioned his naming this river, that of

the Amazons. Some writers call it Orellana, but previous to this denomination it was already known by that of Marañon from another Spanish captain. Geographers, who represent the Amazons and the Marañon as different rivers, following, as did Laet, the authority of Garcilaso and Herrera, were undoubtedly ignorant, not only that the most antient Spanish authors\* denominated the river we speak of Marañon, as early as 1513, but also that Orellana himself in his narrative says, that he met with the Amazons on descending the Marañon, an identification which puts dispute at rest; in fact this name of Marañon has uninterruptedly been preserved throughout its course, and from its very origin, in Upper Peru, by the Spaniards, during more than two centuries. Still, the Portuguese, established since the year 1616 at Para, an episcopal city at the most eastern mouth of this river, in this part know it by no other name than that of the Amazons, giving it the title of Solimões on ascending it higher up, and transferring the denomination Marañon, or as spelt in their language Maranhão, to a city and whole province, or captaincy, adjoining that of Para. I shall use indifferently the names Marañon and Amazons in speaking of this river.

In 1568, Pedro de Urfoa, dispatched by the viceroy of Peru in search of the famous Gold Lake of Parima, and the town El Dorado, supposed to exist in the vicinity of the Amazons river, fell into this river from one flowing into it on the southern side, one of which I shall speak in its place. The fate of Urfoa was still more tragical than that of his predecessor Orellana. Urfoa perished by the hands of Aguiré, a private soldier, who rebelled and declared himself king. This man afterwards descended the river by a long route, which to this day is not clearly known, marking his course by pillage and murder, and terminating his career by being flayed alive in the island of Trinidad.

Voyages like these afforded no great information respecting the course of the river; other governors, in after-time, repeated attempts for this purpose, but with as little success. The Portuguese were more fortunate than the Spaniards.

Pedro Texeira, in 1638, a century after Orellana, placed by the governor of Para at the head of a numerous detachment of Portuguese and Indians, ascended the Amazons river to where it receives the Napo, and afterwards proceeded up that river itself to the neighbourhood of Quito, whither he repaired by land, accompanied by some of the Portuguese under his orders. He met with a favourable reception from the Spaniards, the two nations at that juncture being subject to one lord. The next year he returned, by the same channel, to Para, in company with Father Acuña, and Father Artieda, appointed to render account of the particulars of the voyage to the court of Madrid. They estimated their course from the hamlet of Napo, the spot at which they embarked, to Para, at 1356 Spanish leagues†. The narrative of this voyage was printed at Madrid in 1640. The French translation effected in 1682 by M. de Gomberville is in the hands of every one.

The very defective chart of the course of this river, published by Sanfon from this purely historical narrative, was afterwards, for want of new memoirs, copied by all succeeding geographers, none more correct appearing in France before the year 1717.

At this time, in the twelfth volume of *Lettres edifiantes*, &c. was first published a copy of the chart engraved at Quito in 1707, but planned as early as 1690 by Father Fritz, a German Jesuit missionary on the banks of the Marañon, the course of which river he had traced throughout its whole length. From this chart was discovered that

\* Pedro Martyr, Fernan de Enciso, Fernandez de Oviedo, Pedro Ciega, Augustin Larate.

† At 15 to the degree, 6255 British statute miles.

the Napo, esteemed the main source of the river, was merely tributary, and that the Amazons itself, under the denomination of Marañon, issued from a lake near Guanuco, thirty leagues from Lima. But Father Fritz, destitute of pendulum or telescope, was enabled to determine no one longitudinal point, and for ascertaining the latitudes he had merely a small wooden semicircle of three inches radius; he was moreover ill, as he fell down the river near Para. One need only read his manuscript journal, of which I have a copy taken from the original in the archives of the college of Quito, to see that numerous obstacles, both at that time and on return to his station, prevented his making those observations requisite for rendering his chart exact, especially towards the lower part of the river. This chart is merely accompanied by a few notes on the map itself, without any historical detail, so that, in fact, to this time Europe remains, with respect to the countries through which the river of Amazons takes its course, as destitute of information as it was left a century ago, after the narrative of Father Acuña \*.

The Marañon issuing from its parent lake, in  $11^{\circ}$  of latitude south, directs its course northward to Juan de Bracomoros, through a space of six degrees: thence it bends eastward, in a line nearly parallel to the equator, to the North Cape, disemboguing its waters into the ocean under the line itself, after traversing from Taen, where it begins to be navigable, nearly thirty degrees of longitude or 750 common leagues; or, computing its windings, from 1000 to 1100 leagues †. From the north, as well as from the south, it receives a prodigious number of rivers, many flowing through an extent of five or six hundred leagues, and several of them equalling in volume the Danube or the Nile. The banks of the Marañon, more than a century back, were peopled with a great variety of nations, who withdrew to the interior at sight of Europeans. In the present day merely a few assemblages of natives are to be seen themselves, or their immediate predecessors, recently drawn from their native woods by the Spanish missionaries in the upper portion, and by those of Portugal, in the lower division of the river.

Three roads communicate between the province of Quito and that of Maynas, which gives its distinction to the Spanish missions on the Marañon. These roads traverse that famous chain of snow-capped mountains termed Las Cordilleras de los Andes. The first of these roads, almost immediately under the line, eastward of Quito, leads by Archidona to the Napo: this was the road traced by Texeira on his return from Quito, and by Father Acuña. The second road is through a gorge below the Volcano of Tonguragua in  $1\frac{1}{2}^{\circ}$  of latitude south: it leads to the district of Canelos across numerous torrents, the junction of which forms the river Pastaza, a river that falls into the Marañon one hundred and fifty leagues higher up than the Napo. These two roads are those commonly travelled by the missionaries of Quito, the only Europeans by whom these countries are frequented; for the communication between them and the neighbouring province of Quito is rendered almost impracticable by the Cordilleras, which are passable but for a few months in the year. The third road is by Juan de Bracomoros in  $5\frac{1}{2}^{\circ}$  of latitude south, where the Marañon begins to be navigable for boats. This last is the only road by which beasts of burthen can travel to the place of embarkation. The two preceding require a march of many days on foot, and on these every thing must be carried by Indians; nevertheless the last road is that the least frequented, as much on account of the long circuit it requires, and the constant

\* The work entitled *El Marañon o Amazonas*, 1684, is of no value.

† According to the chart, about 2350 British miles, 1000 leagues (25 to a degree) is 2768 British miles.

rains to which the traveller is subject on the way, and which render the roads almost impassable even in the finest season, as of the difficulty and danger attending the celebrated pass on quitting the Cordilleras called Pongo. Principally that I might survey this pass, which is never spoken of at Quito without admiration and dread, and that I might lay down on my chart the whole navigable extent of the river, I selected of the three roads, the last.

I left Tarqui, the southern extremity of our meridian, five leagues south of Cuenca, on the 11th of May 1743. On my journey to Lima in 1737, I travelled the customary road from Cuenca to Loxa; on this occasion I went by a circuitous one, passing by Zaruma, in order to place that spot on my map. I ran some risk in fording the great river Los Jubones, then much swollen, and always very rapid, but by choosing this course I avoided a greater; as I have since been given to understand, assassins employed by the authors of, or accomplices in the murder of our surgeon, laid in wait for me on the high road from Cuenca to Loxa.

From a mountain over which I passed on my way to Zaruma, Tumbez is distinguished, a port on the South-Sea, at which the Spaniards effected their first landing, south of the line, on their expedition for the conquest of Peru. From this point it was that I began to turn my back on the South-Sea, and take an eastward course across the continent of South-America. This place was formerly celebrated for its mines, now almost abandoned. The gold extracted is much alloyed, being no more than fourteen carats fine; it is mingled with silver, and very ductile.

At Zaruma the barometer stood at 24 inches two lines; unlike in our climates, beneath the torrid zone it is subject to little variation; for at Quito we found that the extreme difference, in the space of several years, did not exceed a line and a half. Mr. Godin was the first who remarked that the variations of the barometer, which in the course of four and twenty hours extend to about a line, are subject to pretty regular alterations, which, once known, allow the ascertainment of the mean height of the mercury by a single experiment. The different experiments made by me on the shores of the South-Sea, and those I repeated on my journey to Lima, satisfied me what this mean height was at the level of the sea, whence I was enabled to assign with tolerable exactitude an elevation of 700 toises (about 4400 English feet), to the territory about Zaruma, an elevation not half so great as that of the land about Quito. In this calculation I made use of a table computed by M. Bouguer, after an hypothesis, which has hitherto corresponded better than any other with experiments made with the barometer, and verified by trigonometrical measurement. I came from Tarqui, a region rather cold, and experienced great warmth at Zaruma, notwithstanding I was scarcely less elevated there than on Mont Pelée, in Martinico, where we found the cold severe, ascending from a low and warm country. I presuppose here that the reader is apprized already of our having constantly observed, during our long sojourn in the province of Quito, under the equinoctial line, that the elevation of the soil almost exclusively determines the degree of heat, and that it does not require one should ascend so high as 2000 toises (about 12,600 English feet), from a valley parched by intense heat, to reach the foot of masses of snow, antient as the globe itself, with which a neighbouring mountain is crowned.

On my way, I crossed many bridges made with cords, bark of trees, or lianas. These lianas, netted together, form an aerial gallery, which is suspended from two large cables of similar materials, the extremities of which are fastened to branches of trees on opposite banks. Collectively, the whole of these singular bridges resembles a fisher's net, or rather an Indian hammock, extending from one to the other side of the river.

As the meshes of this net are very wide, and would suffer the foot to go between them, a sort of flooring is superimposed, consisting of branches and shrubs. It will readily be conceived, that the weight of this net-work, but especially that of the passenger, must give a considerable curve to the bridge; and when, in addition, one reflects that the traveller passing it is exposed to great oscillations, to which it is incident, particularly when the wind is high, and he reaches near the middle, this kind of bridge, which is oftentimes thirty fathoms long, must needs have something frightful in its aspect: the natives, however, who are far from being naturally intrepid, pass such bridges on the trot, with their loads on their shoulders, together with the saddles of the mules, which cross the river by swimming, and laugh at the timidity of the traveller who hesitates to venture. But this is not the most singular nor most dangerous sort of bridge in the country; I shall, however, omit description of the rest, that I may not wander too far from my subject.

I repeated, on passing Loxa, my observations on the latitude, and the height of the mercury on the barometer, and the results agreed with those obtained, in 1737, on my journey to Lima. Loxa is less elevated than Quito by about 350 toises, and the heat is there sensibly greater. The neighbouring mountains are but paltry hills compared with those of the neighbourhood of Quito; but, nevertheless, their ridges are the partition-lines of the courses of rivers; and the very hill on which the best Quinquina grows, two leagues south of Loxa, and called Caxanuma, gives birth to streams which flow westward to the southern ocean, and eastward, after merging in the Marañon, to the Atlantic.

The 3d of June, I spent the whole day on one of these mountains; though assisted by two Americans of the neighbourhood, whom I took with me for guides, I was able to collect no more than eight or nine young plants of Quinquina in a proper state for transportation. These I caused to be planted, in earth taken from the spot, in a case of suitable size, and had them carried on the shoulders of a man constantly in my sight, to the place at which I embarked, hoping to preserve, at least, some of the plants, to leave under charge at Cayenne, if they should not, on my arrival there, be in fit condition for transporting to France for the King's garden.

Between Loxa and Jaen, the best hills of the Cordilleras are passed. The road, on almost all this journey, lays through woods, where rain is so incessant, that it prevails eleven and sometimes the whole twelve months of the year, so that nothing can be kept dry. The baskets covered with ox-hides, which are the packages used in the country, rot, and exhale an intolerably offensive smell. I passed by two towns, which now have only their names, Loyola, and Valladolid; both, a century back, were opulent, and teeming with Spaniards; but, at present, they are reduced to wretched hamlets of Americans or Mestees, and removed from their original site. Jaen itself, which is styled a city, and should be the residence of the governor, is now but a miserable village. Such, indeed, has been the general fate of the major part of these towns of Peru, built at a distance from the sea, and out of the high road from Carthagena to Lima. \*On this route I crossed a variety of rivers, some by fording, others by means of bridges similar to that I have described; others again on rafts, constructed on the spot of the timber with which nature has prodigally filled all these forests. These rivers united form one of great breadth and rapidity, called Chinchipé, superior in volume to the Seine. I descended it the space of five leagues on a raft to Tomependa, an American village, within sight of Jaen, in a pleasant position at the confluence of three great rivers, the middlemost of which is Marañon. On the southern side it receives the Chachapoyas, on the western that of Chinchipé, down which I floated.

This

This junction of the three rivers takes place in latitude  $5\frac{1}{2}^{\circ}$  south; and from this point, notwithstanding many windings, the main course of the Marañon constantly approaches nearer, and more near the line till its mouth. Below this same point the river narrows, and forces itself a passage between two mountains, at a spot where the violence of its current, the rocks in its bed, and a number of falls, render it unnavigable; what is called the port of Jaen, the place where the traveller embarks, being four days' journey from Jaen on the little river Chuchunga, which merges in the Marañon below the falls. However, notwithstanding the imagined impracticability of passing the cataract, an express dispatched by me from Tomependa, with orders from the governor of Jaen to his lieutenant at Sant Yago to forward a boat for me to the port, overcame every obstacle on a little raft, composed of two or three pieces of timber, a float sufficiently large for a naked American, expert as they all are at swimming. In my way from Jaen to the port, I crossed the Marañon, and frequently found myself on its banks. Within the interval between the above town and its port, the Marañon receives a number of torrents from the north, which, in the rainy season, bring down with them a sand mingled with small plates and grains of gold. At this season the natives go to collect it, but they merely seek for what is necessary to pay their tribute or poll-tax, and when urgently obliged; at any other season, they would rather trample under foot this coveted metal, than take the pains of collecting and cleaning it. Throughout the whole of this district, both sides of the river are covered with the wild cocoa-trees, the fruit of which is nothing inferior to the cultivated, but on which, also, the natives set as little value as on the gold.

The fourth day after my departure from Jaen, I passed the torrent Chuchunga, one and twenty times by fording, and the last time in a boat; the mules, on reaching the river, dashed into the water, laden as they were, and, in consequence, all my instruments, books, and papers, were thoroughly wetted. This was the fourth accident of the kind which I had experienced in travelling among the mountains, my casualties from water never ceasing until I was fairly embarked on that element.

Chuchunga is an hamlet containing half a score American families, governed by their Cacique, who understood about as many Spanish words as I did of his native language. I was under necessity of leaving behind me at Jaen two servants of the country, who might have acted for me as interpreters; and necessity enabled me to manage without them. The inhabitants of Chuchunga possessed no other than small canoes suited to their purposes, and that I had sent for by express to Sant Yago could not arrive in less than a fortnight, I therefore engaged the Cacique to cause his people to frame a raft for me, or, as termed by them, a Balse, the same word denoting as well the float itself as the species of wood of which it is constructed; directing him to make it large enough for myself, my instruments, and baggage. The time occupied in preparing the Balse, afforded me leisure to dry my books and papers, sheet by sheet, a precaution as necessary as it was tedious. The sun was visible only about noon, but this glimpse of it enabled me to take an altitude, which gave for the latitude  $5^{\circ} 21'$  south; and from the barometer, sixteen lines lower than at the sea-side, I gathered that at 235 fathoms above its level, &c.; navigable rivers occur without being interrupted by falls: I am far from inclined to assert, that this is not the case with the Marañon at a still greater elevation, but I can only speak positively of what I know; though it appears far from improbable, that the spot at which a river begins to be navigable for boats, the course of which river to the sea is even from here more than a thousand leagues, should be more elevated above the level of the ocean than that where navigation commences on rivers of shorter course.

On the 4th of July, in the afternoon, I went on board a small two-oared canoe, preceded by the Balse, and escorted by all the Indians of the hamlet. They were up to the middle in the water for the purpose of guiding the Balse through difficult channels, and preserving it from rocks, and down the gentle falls, from the violence of the current. The succeeding day, after a very tortuous course, I entered the Marañon about four leagues north of the spot where I embarked. Here it is the Marañon begins to be navigable. It now became necessary to enlarge and strengthen the raft, which, before, had been proportioned to the bed of the river I had floated down. During the night, the river rose ten feet, and rendered necessary a hasty removal of a bower which had served me for shelter, and which the natives raise with marvellous skill and promptitude. In this spot I was detained three days by advice, or rather by order of the guides, on whom I was obliged to rely. They had in consequence full leisure to prepare the Balse, and I also to make observations. I measured the breadth of the river trigonometrically, and, though narrower than before by from 15 to 20 toises, I found it 135 toises wide\*. Many rivers which it receives above Jaen are much broader, which made me conclude its depth to be very considerable: in fact, though I sounded with 28 toises of cord, this did not reach its bottom at a third of its breadth from the side. In the middle of the stream I was unable to obtain soundings, as a canoe in this part was carried along at the rate of a fathom and a half in a second. The barometer, higher by four lines than at the port, indicated the level of the river to be lower by 50 toises than at Chuchunga, from which place I had been but eight hours in descending. At the same place, I found the latitude  $5^{\circ} 1'$  south.

On the 8th, I continued my route, and passed the strait of Cumbinamba, dangerous on account of the stones with which it is filled. It is scarcely 20 toises broad. The next day I came to that of Escarrebragas, which is one of a different description. The river, arrested in its course by the side of a steep rock, against which it strikes, is diverted suddenly, so as to form a right-angle with its former direction. The shock of the tide, rendered more impetuous by the narrowness of the channel, has hollowed a deep bay, where the waters of the margin, separated by the rapidity of the mid-stream, are kept back. My raft, on which at that time I happened to be driven by the current into this bay, for an hour and some minutes, was incessantly whirled about, the sport of eddies. The waters, as they revolved, bore me towards the mid stream, where the waves, occasioned by the revulsion of the eddies, would infallibly have overwhelmed a small canoe; the size and solidity of the float secured it from this danger, but repeatedly did the force of the current drive me back to the bottom of the bay, from which I was indebted for my ultimate release to the skill of four Americans, whom I had retained with a small canoe in case of accident. These, navigating their bark along the margin, climbed the rock, from which, with much difficulty, they threw Lianas, the substitutes in this country for cords, on board the raft, and, by means of these, dragged it into the current. The same day, I passed a third strait, called Guaracayo, in which the bed of the river, confined between two immense rocks, is only thirty toises broad; this strait is dangerous only at the period of great swells. On the evening of the same day, I met the large canoe from Sant Yago; but it would have taken it six days more to have reached the spot from which I had fallen down since the morning, and which had taken me only ten hours.

\* 840 English feet wide; depth upwards of 175 feet; distance from the sea more than 2,600 British miles.

On the 10th, I arrived at Sant Yago de las Montañas, a hamlet situate at the mouth of the river of similar name, and built from the ruins of a town which had given denomination to the river. The banks of it are inhabited by an American nation called Xibaros, formerly Christians, but who shook off the Spanish yoke a century ago, to escape from the toil exacted from them in working the gold mines of their country: ever since, secluded in inaccessible woods, they preserve themselves independent, and impede the navigation of this river, by which it would be easy to fall down in the space of a week, from the vicinage of Loxa and Cuenca, the transit whence had taken me two months. The dread inspired by these Indians has twice obliged the inhabitants of Sant Yago to change their abode, and, in course of the last forty years, to descend to the spot where that river empties itself into the Marañon.

Below Sant Yago is Borja, a town of much the same stamp as the preceding, though the capital of the government of Maynas, a government which comprehends all the Spanish missions on the banks of the Marañon. Borja is divided from Sant Yago merely by the famous Pongo de Manferiché. Pongo, anciently Poncu, signifies in the Peruvian language a gate. It is a term, in this language, given to all narrow passes, but to this as a mark of excellence. This strait is a road worked for itself by the Marañon in its passage eastward, after a course of two hundred leagues towards the north and the mountains of the Cordilleras, its bed being dug between two parallel walls of rock almost perpendicular. Little more than a century has elapsed since certain Spanish soldiers of Sant Yago discovered this passage, and went through it. Two Jesuit missionaries followed them shortly after, and, in 1639, founded the mission of Maynas, which extends to a considerable distance down the river. Arrived at Sant Yago, I hoped to cross over to Borja the same day, and, indeed, an hour would have carried me thither, but spite of reiterated expresses, spite of the orders and recommendations with which we were constantly well provided, but which were so seldom duly attended to, the timber of the large raft with which I was to pass the Pongo was not yet felled. I contented myself with strengthening mine by a new fence, with which I caused it to be surrounded, to enable it to resist the first effect of the almost inevitable shocks to which the rafts, from their mode of structure, and being without any rudder, are unavoidably liable in the windings of the strait. As for the canoes, they are so light, that they are guided by the same paddles with which they are rowed.

I was unable to overcome the repugnance of my mariners to attempt the passage on the day after my arrival, owing to the waters, as they said, not being sufficiently low. All I could induce them to, was to cross over to the opposite side, there to wait a favourable opportunity in a small bay at the entrance of the Pongo; in this, the violence of the current is such that, although properly speaking there be no cataract, the waters seem to plunge, while the shock of them, as they dash against the rocks, deafens the ear with its tremendous noise.

The four Americans who had followed me thus far from the port of Jaen, less solicitous than I of a near view of the Pongo, proceeded onwards by a footpath, or rather a staircase cut in the rock, to wait for me at Borja. In consequence, this night, as the preceding, I was left on the raft with no other companion than an old negro slave. Lucky for me it was, that I determined on not leaving him alone, as I was threatened with an accident perhaps without a parallel. The river, which in thirty-six hours fell five and twenty feet, still continued visibly to sink. In the middle of the night, the splinter of an immense branch of a tree, concealed under water, penetrated between the timbers of my raft, and, in proportion as the waters abated of their height, became more deeply entangled, so that, had I not been present and awake, I should in

all probability have been left on the raft, subtended in the air by the branch ; in which case, the lightest misfortune I should have incurred, would have been the loss of my journals and observations, the fruit of eight years' toil. I succeeded, fortunately, in disengaging the raft, and setting it again on float.

I availed myself of my obligatory stay at Sant Yago to measure trigonometrically the breadth of the two rivers, and to take the angles required to enable me to draw a topographical chart of the Pongo.

The 12th July, at noon, I caused the raft to be unmoored, and pushed from shore ; soon I found myself carried along by the stream in a deep and narrow gallery, formed by two walls of rock, in some parts slanting, but in others perpendicular ; in less than an hour, I was transported to Borja, three leagues, according to common computation, from Sant Yago. However, the Balse, which did not draw half a foot of water, and which, from the bulk of its loading, presented to the air a resistance seven or eight times as great as that it opposed to the current, did not consequently proceed with equal velocity to that of the current itself ; and this velocity diminishes materially as the channel increases towards Borja. In the narrowest part I reckoned, that, comparing the speed of our course with that on former occasions, which I had measured trigonometrically, in the narrowest part, we were carried along at the rate of two toises in a second.

The channel of Pongo, hollowed by the hand of nature, begins a short league below Sant Yago, narrowing gradually till, from 250 toises, the breadth at the junction of the two rivers, it diminishes in the narrowest part to twenty-five. I know very well, that the breadth hitherto ascribed to the narrowest part of the Pongo, is only five and twenty Varas, equivalent scarcely to ten of our toises ; and that the passage from Sant Yago is said to be effected in a quarter of an hour. For my part, I remarked that, in the very narrowest part, I was at least thrice the length of my raft from either side. I moreover observed by my watch, that we were fifty-seven minutes in speeding from the entrance of the strait to Borja, and all combined, I found the measures as I have given them ; and, however well inclined to shew a deference to the opinion commonly received, I can scarcely admit the distance from Sant Yago to Borja, instead of three, as computed, to be even so much as two leagues, of twenty to a degree.

I struck twice or thrice with violence against the rocks in course of the different windings, an accident calculated, but for being forewarned of the little danger thence to be apprehended, to create no small portion of alarm. A canoe on such an occasion would be dashed into a thousand pieces ; and the spot was pointed out to me, as I passed along, where a governor of Maynas thus met destruction : but the beams of the raft being neither nailed nor dovetailed together, the flexibility of the Lianas, by which they are fastened, have the effect of a spring, and deadens the shock so, that when the strait is passed in a raft, these percussions occur unheeded. The greatest danger for these is, their being liable to be driven out of the stream into eddies, an accident which, as related above, it was my lot to experience. Not a year had elapsed before since a missionary, drawn thus into a vortex, was kept in it for two days destitute of provisions ; and, but for a sudden swell of the river, which brought him again into the current, he might there have perished of hunger. The Pongo is never attempted in a canoe, except when the waters are so low as to admit its being steered without being overpowered by the stream. Canoes also stem the current when the waters are at their lowest, and ascend ; but this is impracticable for Bales.

At Borja, I found myself in a new world, separate from all human intercourse, on a fresh water sea, surrounded by a maze of lakes, rivers, and canals, penetrating in every

every direction the gloom of an immense forest, which but for them were forbidden to access. New plants, new animals, and new races of men, were exhibited to view. Accustomed during seven years to mountains lost in clouds, I was wrapt in admiration at the wide circle embraced by the eye, restricted here by no other boundary than the horizon, save where the hills of Pongo, soon about to disappear, raised themselves to check the constant monotony of the scene. To the crowd of varying objects which diversify the cultured fields of Quito, and which still presented themselves to the imagination, succeeded the most uniform contrast, the whole to be seen being verdure and water; for the earth is so thickly covered with tufted plants and bushes, that it is trod, but not perceived; to find a barren space, though but a foot square, requiring a world of toil. Below Borja, and 4 or 500 leagues beyond, on falling down the river, a stone, nay a pebble, is an object rare as a diamond. The savages of these countries indeed have no conception of stones, and when, on visiting Borja, they first perceive them, the wonder they occasion is admirable to behold; every gesture tokens surprise; they collect them together, and load themselves with the precious burden, till, beginning to notice their abundance, they finally disregard, and throw them away.

Before I proceed farther, I deem it right to say a word of the genius and character of the primitive inhabitants of South America, improperly called Indians, in speaking of whom, I mean to include neither the Spanish or Portuguese Creols, nor the various races produced by a mixture of Europeans with the blacks of Africa, or the red men of America, since the establishment of the first in the country, and the introduction by them of the Negroes of Guinea.

All the old natives of the country are of a tawny colour, inclining to a red of different shades of brightness; the difference in the shades arising probably in a great degree from the varying temperature of the climate they inhabit, which embrace the intense heat of the torrid zone with the cold of the vicinage of snow.

This variety of climates; the wooded countries, plains, mountains, and rivers, which different sites afford; a difference of aliment; the little intercourse subsisting between neighbouring nations, and numerous other causes, must necessarily have introduced a variety in the occupations, as in the customs of these people. Again, it will readily be conjectured that a nation, become Christian, and subject during a century or two to the Spanish or Portuguese yoke, must, of consequence, have adopted somewhat of the manners of its conquerors, and that an American inhabitant of a town or village in Peru, for example, must differ from the savage of the interior, and even from a new inhabitant of those countries in which missions are established on the Marañon. In order, therefore, to present an exact idea of the American people, almost as many descriptions are requisite as there are nations; however, as in Europe all nations, notwithstanding distinct languages, manners, and customs, have yet somewhat in common to the eyes of an Asiatic who examines them with attention, so do all the Americans of the different countries I had opportunity of noticing in the course of my travels, present features of resemblance, the one to the other, indeed (with exception of light shades of difference, scarcely to be distinguished by a passing observer,) I fancied in all alike a similar base of character.

Insensibility among these people is generally prevalent, which, whether to be dignified by the name of apathy, or sunk in that of stupidity, I leave to the decision of others. Undoubtedly it is caused by the paucity of their ideas, which extend no farther than their wants. Voracious gluttons, where means of satiety exist; when want enforces sobriety they patiently bear with abstinence, and seem to be void of care. Pusillanimous and timid in extreme, unless when transported by drunkenness; inimical to toil; indifferent

indifferent to every impulse of glory, honor, or gratitude ; wholly engrossed and determined by the object of the moment, without concern for the future ; destitute of foresight and reflection ; and giving themselves up, when nothing prevents them, to a childish joy, which they manifest by leaping, and loud bursts of laughter, with no apparent object ; they pass their lives without thought, and see old age advance, yet unremoved from childhood, and preserving all its faults.

Were this the picture merely of the Indians of some provinces of Peru, who may be regarded as slaves, the want of civilization might be ascribed to the degeneracy incident on their servile state ; for the degradation to which slavery is capable of reducing man, is sufficiently exemplified in the present condition of the Greek nation : But the Americans of the country of the missions, and the savages free from all controul of Europeans, shewing themselves equally limited, not to say stupid, with the others, the reasoning mind cannot but feel humiliation, contemplating how little man, in a state of nature, and destitute of instruction and society, is removed in condition from beasts.

All the languages of South-America with which I am acquainted, are very poor ; many possess energy, and are susceptible of elegance, especially the antient language of Peru ; but they are universally barren of terms for the expression of abstract or universal ideas, an evident proof of the slight progress of intellect among these people. Time, duration, space, entity, substance, matter, corporeity ; these are words which, with many others, have no equivalent in their languages. Not only metaphysical terms, but also moral attributes, require long periphrases to be expressed, though with them, in but an imperfect manner. They have no words that correspond exactly with virtue, justice, liberty, gratitude ingratitude ; a fact with which it seems difficult to reconcile what Garcilaso relates of the policy, industry, arts, government and genius of the antient Peruvians. Unless the love he bore his country induced him to exaggerate, we must needs allow that these people have greatly degenerated from their ancestors. As for the other nations of South-America, they are not known to have ever emerged from their pristine barbarism.

I have formed a vocabulary of the most common words in different American languages. A comparison of these words with those of similar import in other languages of the interior, may not only be serviceable towards proving the different transmigrations of these people from one to the other extremity of this vast continent : but where it can be effected also with the different languages of Africa, Europe, and the East-Indies, may furnish, possibly, the only means of ascertaining the origin of the Americans. A well-proved conformity of language would without doubt solve the question. The word *abba*, *baba*, or *papa*, and that of *mama*, which with slight inflections seem to have been adopted from the antient tongues of the eastern world by a majority of the nations of Europe, are common to a great number of the American nations, however different the rest of their language. And though we should allow these words to be those which would preferably be received in every country by parents, from their being the first articulations of infancy, as the representatives of the relation of father and mother, it yet follows to enquire wherefore, in all the languages of America in which these words occur, the application of them should be uniformly the same, without their meaning being reversed ; for example, how comes it in the *Omagua* language, spoken in the centre of the American continent, and in which the terms *papa* and *mama* are used, that *papa* should never signify mother, nor *mama* father, but the contrary, as in the languages of Europe and the east. It is far from improbable, that among the natives of America other terms might be found, the well confirmed

firmed relation of which with those of some other language of the antient world, throw light on a question hitherto left purely to conjecture.

I was expected at Borja by the reverend Father Magnin from the canton Fribourg, a Jesuit missionary, from whom I received that attention and kindness naturally to be expected from a friend and countryman. I had no occasion with him, nor afterwards with the other missionaries of his order, to avail myself of the recommendations I brought from their friends at Quito, and still less of the passports and orders of the court of Spain, which I carried with me. Besides other curiosities in natural history, this Father made me a present of a chart, drawn by him, of the territory of the Spanish missions of the Maynas, together with a description of the manners and customs of the neighbouring nations. During my stay at Cayenne I was assisted by Mr. Artur, physician to the King, and member of the Upper Council of that colony, in translating this Spanish work into French: it is highly worthy the curiosity of the public.

I found the latitude of Borja  $4^{\circ} 28' S$ .

From this place I took my departure on the 14th July with the same Father, who was so obliging to accompany me as far as Laguna. On the fifteenth we passed on the north the mouth of the Morona, which flows from the volcano Sangay, the ashes thrown from which, traversing the provinces Macas and Quito, are sometimes carried beyond Guyaquil. Beyond this, on the same side, we distinguished the three mouths of the river Pastaca before mentioned. At this time its banks were so much overflowed that no landing could be effected; I was consequently unable to measure the breadth of its principal mouth, which I reckoned to be 400 toises, nearly equalling the breadth of the Marañon itself. A little beyond, the same evening and the succeeding morn, I observed the sun at its setting and rising, and, as at Quito, I found its declension  $8\frac{1}{2}^{\circ}$  towards the north. By two amplitudes thus observed in succession in the evening and morning, the variation of the needle may be computed without knowing that of the sun; all that is required being to notice the difference of declension of the sun in the interval of the two observations, provided this difference be sufficiently great to be shown by the compass.

On the 19th we arrived at Laguna, where Don Pedro Maldonado, governor of the province of Esmeraldus, had been waiting for me six weeks; to this nobleman, as well as to his two brothers and his entire family, I owe a public acknowledgement for the distinguished civilities our academic detachment experienced at their hands, during our long stay in the province of Quito. He, as well as myself, on his passage to Europe, felt disposed to proceed down the river of Amazons, and had taken the second of the three routs descending the Pastaca; after many dangers and great fatigue he had been fortunate enough to arrive much before me, notwithstanding the period of his departure from Quito was nearly the same as that at which I left Cuenca; he had made the requisite observations as he travelled along, with a compass and portable gnomon, to enable him to describe the course of the Pastaca, an undertaking, to which I not only had prompted him, but likewise facilitated, by furnishing him with means for its execution.

Laguna is a considerable village, containing more than a thousand Americans capable of bearing arms, who are a medley of various nations. It is the chief establishment of all the missions of the province of Maynas. The town is placed on dry and elevated ground, which is rare to be seen in these countries, and at the same time on the margin of a great lake, five leagues above the mouth of the Gullaga, a river which, like the Marañon, has its origin in the mountains eastward of Lima. By the Gullaga it was that Pedro de Ursoa, of whom mention has already been made, descended to the  
river

river of Amazons. The memory of his expedition and the events which occasioned his lamentable end, is still preserved among the inhabitants of Lamas, a small place in the neighbourhood of the port at which he embarked. The breadth of the Guallaga on its influx into the Marañon might, at this time, be 250 toises. It is a river very inferior in volume to the majority of those I shall have occasion to notice as I proceed.

At Laguna I made a number of observations on the sun and stars, in order to determine the latitude, which I found to be  $5^{\circ} 14'$ . I made a halt here of twenty-four hours, for the purpose of ascertaining the longitude, but I lost sight of Jupiter in the vapours of the horizon, before I could distinguish its first satellite emerging from its shadow.

On the 23d Mr. Maldonado and myself left Laguna in two canoes from forty-two to forty-four feet long, by only three in breadth, each formed of the trunk of a single tree. In these canoes the rowers are placed from the prow to the middle, the traveller and his equipage at the poop, under shelter from the sun and rain beneath a rounded canopy, formed with much ingenuity by the natives, of matted palm leaves. This species of bower has a cavity in the middle of the roof, by which light is admitted, and it serves likewise to enter by; in case of rain, or otherwise at the pleasure of the traveller, this entrance is closed by a sliding roof of similar materials, which draws over that which is fixed.

We resolved on continuing our voyage by night as well as by day, in order to overtake, if possible, the brigantines, or large canoes dispatched annually by the Portuguese missionaries to Para in quest of necessaries. During the day our Americans paddled along; two only of their number kept watch during the night, the one at the prow, the other at the stern, to preserve the boat in the current.

In undertaking a chart of the course of the river of Amazons, I provided myself a resource against the tiresomeness of a weary though tranquil voyage through a country, in which the continued sameness of objects, however novel in themselves, tended to fatigue rather than please the eye. My attention was perpetually engrossed by the compass, and the watch I held in my hand, in order to observe the deflections of the course of the river, and the time occupied between each bend; to notice the varying breadth of its bed, and that of the mouths of the different rivers it receives, with the angles formed by them on delivering their waters; the occurrence of islands and the length of them; but especially to ascertain the degree of celerity with which the current flowed, and the canoe proceeded along, using for these last purposes various methods too tedious to explain. Every instant of my time was employed: repeatedly I fathomed the depth of the stream; almost every day I took a meridional altitude, and oftentimes observed the amplitude of the sun at its rising and setting: wherever I made a halt, there likewise did I determine the height of the barometer. I shall notice these observations only in the most remarkable spots, reserving a more minute detail for our private meetings.

On the 25th we passed on the north side the river Tiger, which possibly exceeds in size the cognominal one in Asia, but which, for its celebrity less happily situate, is here lost, owing to the vast superiority of a number of other rivers. This day at an early hour, we halted on the same side of the river at a mission newly established among savages, denominated Tameos, who had recently been drawn from the woods. The language of this people is indescribably difficult, and their enunciation still more extraordinary than their language. They draw their breath in speaking in such manner that the sound of scarcely one vowel can be distinguished. They have words which, to describe, and then but imperfectly, would require at least nine or ten syllables, though as pronounced by them they seem to consist of but three or four; Poettarraro-rincouroac

*incouroac* signifies the number *three* in this tongue: happily for those who have transactions with them, their arithmetic goes no farther. However incredible it may appear, this is not the only American nation with whom an equal poverty of numbers is common. The Brazilian tongue, a language spoken by people less savage and uncivilized, is equally barren; the people who speak it, where more than three is to be expressed, are obliged to use the Portuguese.

The Yameos are well skilled in the art of making long *Sarbacanas*, the most common instrument used by native Americans on their hunting excursions. Within these they insert small arrows, made of wood, and, instead of being feathered, surrounded by a ball of cotton which exactly fills the cavity of the tube. By a strong puff of the breath they dart these arrows to the distance of thirty or forty paces, and scarcely ever miss their aim. This simple instrument serves as an admirable substitute among all these savages for fire-arms. The points of these diminutive arrows, as well as those they shoot from their bows, are steeped in a poison of such activity, that when recent it kills any animal from which the instrument dipped in it may chance to draw blood. Notwithstanding we had fowling peices, we scarcely ever, in going down the river, ate of game killed by other means than these arrows, the tips of which we often discovered in eating, between our teeth; there is no danger from such occurrences, for the venom of this poison is only mortal when absorbed by the blood, in which case it is no less fatal to man than to animals. The antidote is salt, but of safer dependence sugar. In their proper place, I shall notice the experiments I made to ascertain the truth of this opinion, as well at Cayenne as at Leyden.

The next day, the 26th, we fell in with, on the southern side of the mouth of the *Ucayale*, one of the largest rivers which swell the tide of the *Marañon*. It is even a moot point which of the two should be esteemed the chief, and which the tributary. At their confluence, the *Ucayale* is the broadest of the two, and its sources are more distant and more copious than those of the other; it receives the waters of many provinces of Peru, and at the same degree of latitude at which the *Marañon* is only a torrent, it is enlarged by the tribute of the *Apu-rimac*, and already flows a considerable stream; to conclude, the *Ucayale*, on meeting the *Marañon*, repulses its tide and changes its course. On the other hand, before its juncture with the *Ucayale*, the *Marañon* makes a long circuit and receives the rivers *St. Jago*, *Pastaca*, *Gualлага*, &c.; moreover, the *Marañon* is throughout its course of very great depth. Still again the depth of the *Ucayale* has never yet been fathomed, nor is it known what the number or what the volume of the rivers it receives. I think therefore that the question, of which should be considered the main stream, must remain undecided till the *Ucayale* be better known. This it was likely to have been at one period, but the insurrection of the *Cunivos* and the *Piros*, who massacred their missionary in 1695, by occasioning the abandonment of the establishments effected on its banks, have placed this event at a distance.

Below the *Ucayale* the breadth of the *Marañon* is visibly increased, as is the number of its islands. On the 27th in the morning, we reached the missionary establishment of Saint Joachim, composed of a number of American nations, especially of the *Omaguas*, a people formerly powerful, and which a century before inhabited the islands and banks of the *Amazons* river throughout a space of two hundred leagues below the *Napo*. Nevertheless this people is not esteemed to be originally of this country, and there is much probability that they proceeded to their settlement on the *Marañon* down some of the rivers which flow into it from the new kingdom of *Grenada*,

nada, flying hither to avoid the dominion of the Spaniards, at the period of their conquering the country they abandoned.

This opinion is founded on the fact of the existence of a nation near the source of one of these rivers, and known by the name of Omagua; on the use of clothes, a circumstance noticed among the Omaguas alone of all the tribes found on the Amazons; some vestiges of the ceremony of baptism; and finally, certain disfigured traditions. Father Samuel Fritz converted the whole of this people to christianity at the close of the last century (the seventeenth), and as many as thirty of their villages are laid down by name, in the map of that Father, of which however we could only trace the ruins or the site; the whole of their population, intimidated by certain ruffians from Para, who ascended the river thus far, and made slaves of many of them, having fled to the woods, or dispersed among the missions of Spain and Portugal.

The Peruvian word Omagua, and the Brazilian term Cambevas, applied by the Portuguese of Para to these people, alike signify flat-head; and in fact this nation has adopted the whimsical practice of pressing between two boards, the forehead of their new-born infants, in order to give it the singular form which originated their denomination, and, as they say, to make them more perfectly resemble the full moon. The language of the Omaguas is as sweet and easy of enunciation, as that of the Yameos is harsh and difficult: it has no affinity to that of Peru or that of Brazil, the one common above, the other below the country of the Omaguas, along the banks of the river.

The Omaguas make great use of two plants, both purgative; the flower of the one, called by the Spaniards Floripondio, resembles an inverted bell; this plant has been described by F. Feuillée; of the other plant called Curupa, I brought away the seed. This people, by means of these, effect an intoxication which lasts twenty-four hours, during which they are subject to extraordinary visions. They moreover take the Curupa dried and reduced to powder, as we do snuff, but after a singular fashion. They use for the purpose a reed terminating in two prongs like the letter Y, each extremity of which is inserted into either nostril; from these, by a strong inspiration which occasions their making a grimace that to Europeans, accustomed to refer every thing to their own customs, appears truly laughable, they inhale the powder.

In a country where heat and moisture combine to excite the greatest fertility, it will naturally be concluded, that the abundance and variety of plants must be great. Those of the province of Quito will not have escaped the researches of our associate M. Jos. de Jussieu, but I may safely affirm, that the multiplicity and diversity of the trees and plants found on the banks of the Amazons river, in its course from the Cordilleras de los Andes to the sea, and on the banks of the different rivers its tributaries, would require years of toil from the most indefatigable botanist, and employ for the same space more than one draughtsman to describe. I speak here merely of the labour which a minute delineation of all these plants, and the reduction of them into classes, genera, and species, would necessarily require, but if to this were superadded an examination into the virtues ascribed to them by the natives of the country, certainly the most interesting part of a study of this nature, how tediously long were the task! No doubt these virtues have been much mis-stated and greatly exaggerated by prejudice and ignorance, but are we to imagine that Bark, Ippecacuhana, Simaroba, Salsaparilla, Guaiacum, Cacos, and Vanilla, are the only useful plants which the fruitful bosom of America presents? And does not the well-attested and widely-acknowledged usefulness of these hold forth encouragement to new researches? For my part, all I was enabled to effect, was, to collect seed at every step of my journey, where this was practicable.

The

The genus of plants which seemed most to strike the attention of new comers, on account of the singularity of its different species, was in my esteem the Liana, a kind of oziars, which as before noticed serves in lieu of cordage, and which is very abundant in all the hot parts of America. All the species of this genus have this in common, that they twine around the trees and shrubs in their way, and after progressively extending to the branches, occasionally to a prodigious height, throw out shoots which, declining perpendicularly, strike root in the ground beneath, and rise again to repeat the same course of uncommon growth. Other filaments again, driven obliquely by the winds, frequently attach themselves to contiguous trees, and form a confused spectacle of cords, some in suspension, and others stretched in every direction, not unfrequently resembling the rigging of a ship. Of these Lianas there are scarcely any but to which some particular virtues are ascribed, some of them with appropriate justice, as in the instance of Ippecacuhana. In many parts I observed a species readily discovered by its potent and distinct odour, resembling that of garlic. Some of these Lianas are as thick as, nay thicker even than the arm of man, and some, like the Boa Constrictor its victims, strangle and destroy the tree round which they twine their parasitic arms: to these, a well-earned name, the Spaniards have given the title of Matapalo (wood-killer). At times it happens that the tree dies at root, and the trunk rots and falls in powder, leaving nothing but the spirals of the Liana in form of a tortuous column, insulated, and open to the day; nature in this instance laughing to scorn, and defying the imitations of art.

The gums, resins, balsams, nay juices of every sort, which exude by incision from different kinds of trees, as well as the various oils extracted from them, are numberless. The oil obtained from a palm called Unguravé is reputed to be equally sweet, and by some as pleasant to the taste, as that of the olive. That of others again, for example the Andiroba, yields a brilliant light, without the least offensive smell. In many parts the Americans, in lieu of oil, burn Copul, surrounded by leaves from the Banana tree; in others, certain seeds threaded on a pointed slip of wood, which, stuck in the ground, serves as a candlestick. The resin called Cahouchou in the province of Quito, where it grows in the vicinage of the sea, is also very common on the banks of the Marañon, and is used there for similar purposes; when fresh, by means of moulds, any shape is given to it at pleasure; it is impervious to rain, but its most remarkable property is its elasticity. Of it are made infrangible bottles, boots, and hollow balls, which can be flattened at will, but which, when the pressure that flattens them is removed, assume again their pristine form. From the Omaguas the Portuguese of Para learnt the method of forming syringes of the same matter, and pumps which need no sucker: these syringes are made in the shape of a pear, with a neck at the extremity, that, as well as the body, being hollow. Into this neck a cane is fitted. When it is wished to fill this vessel with a fluid, the air is expelled by pressure, and the reed inserted downwards into the fluid; on removal of the pressure the vessel resumes its shape, and the fluid pressed upon by the circumambient air, is forced into the vacuum formed by the restoration of its shape to the vessel; this when full being suddenly pressed the contained liquid is expelled with the same effect as from a syringe; among the Omaguas it is a very common utensil. When they assemble on occasion of any entertainment, the master of the house never fails to present one of these bottles to each of his guests, and its contents are voided constantly previous to the beginning of a grand dinner.

At Saint Joachim we took other canoes and a fresh crew, departing thence the 29th July, with a design of reaching the mouth of the Napo in time to observe at that place

an emerfion of the firft fatellite of Jupiter, which would occur on the night between the 31ft and the 1ft of Auguft. From the period of commencing my journey, I had no certain point of longitude afcertained wherewith to correct my computed diftances, from weft to eaft; however the travels of Orellana, Texeira, and Father Acuna which had rendered famous the river Napo, and the pretentions of Portugal to both fides of the river of Amazons as far as the Napo, made it important to determine the exact pofition of this point. In fpite of various obftacles, I happily fucceeded in completing my obfervation, and thus reaped the firft fruit of the toil which the transport of a telescope eighteen feet long, over mountains and through woods, for the fpace of one hundred and fifty leagues, muft neceffarily have occafioned. My fellow-traveller, actuated with the fame zeal as myfelf, on this occafion, and on a variety of others at which he rendered me affiftance, was of great fervice, his intelligence and activity being equally exerted. I firft obferved the height of the fun at noon, in an ifland oppofite to the great mouth of the Napo, which I found to be  $3^{\circ} 24'$  S. I computed the whole breadth of the Marañon below the ifland, at nine hundred toifes, but was only able to meafure one of its branches trigonometrically. The Napo appeared to me fix hundred toifes broad above the iflands at its mouth, which divide it into feveral arms. At length, the fame night, I obferved the emerfion of the firft fatellite of Jupiter, and immediately afterwards, to afcertain the time, I took the height of two ftars. The intervals between the obfervations were computed by an excellent watch, and by thefe means, the mounting and regulating of a pendulum, a matter which was fcarcely poffible of execution, and which would have required fome time, was rendered unneceffary. The refult of the calculation I made, was, that the difference between the two meridians of Paris and the mouth of the Napo, was four hours and three quarters. This determination will be rendered more exact when the precise instant of obfervation fhall be afcertained at fome place the longitude of which is known, and at which the emerfion may have been vifible.

After obferving the longitude, we continued our way; and the next morning, the 1ft Auguft, landed ten or twelve miles below the mouth of the Napo at Pevaf, now the laft of the miffionary eftablifhments belonging to Spain on the banks of the Marañon. Father Fritz had laid them down as extending two hundred leagues beyond, but, in 1710, the Portuguefe poffeffed themfelves of the major part of the lands thus defcribed as pertaining to Spain. The favages of the neighbourhood of Napo were never completely fubdued by the Spaniards, for, at different periods, the governors and miffionaries fent to reduce them to fubjection, have been maffacred; but fifteen or twenty years back, the Jefuits of Quito formed eftablifhments here anew, fending other miffionaries; and thefe fettlements, at prefent, are in a highly flourifhing condition.

The name of Pevaf, given to the town at which we landed, is that of an American nation, many individuals of which are inhabitants; but here are collected Americans of divers nations, each of which has a language peculiarly its own, as is common over the whole continent. It fometimes happens, that a language is known to no more than two or three families, the wretched veftige of a tribe destroyed, and devoured by fome other: for, notwithstanding there are at prefent no man-eaters along the banks of the Marañon, there yet exift inland, particularly towards the north, and along the Yapura, tribes of Americans, who eat their prifoners. The majority of the new inhabitants of Pevaf are favages, newly enticed from their woods, and yet unconverted to Chriftianity; the neceffary preliminary of debrutalizing them, a task of no fmall difficulty, not having yet been completed.

On the present occasion, it is not meet I should expatiate on the manners and customs of these nations, and of others I met with, beyond what is necessary, from their relation to physics or natural history; I shall say nothing, therefore, respecting their dances, instruments, entertainments, arms, fishing, and hunting apparatus, their whimsical ornaments of bones of fishes and quadrupeds, run through their nostrils and lips, or of their cheeks riddled with holes, which serve them for fixing in feathers of various hues; but anatomists will possibly see a theme for reflection in the monstrous extension of the lobe of the lower part of the ear, of certain nations of this people, without any sensible diminution of its thickness occurring in consequence of the prolongation. We were much surprized at seeing lobes of this description, four or five inches in length, pierced through by a hole from seventeen to eighteen lines in diameter, a circumstance which we were assured was far from uncommon. After first making a hole, they insert in it a narrow cylinder of wood, the size of which is gradually augmented, until the pendant lobe is so much lengthened as to reach the shoulders. The chief decoration is a large nosegay or tuft of herbs and flowers, which is drawn through this hole, forming most uncommon pendants.

From Pevas, the last of the missionary settlements belonging to the Spaniards, to St. Pablo, the first descending the river pertaining to the Portuguese\*, and in which a deputation from the order of Mount Carmel officiates, the distance is reckoned six or seven days' journey; this distance we travelled in three days and nights. In this interval no dwelling is found on the banks of the river. Here begin the large islands formerly inhabited by the Omaguas, and here the bed of the river increases so much in breadth, that oftentimes a single arm of it is from eight to nine hundred toises broad. As so wide an extent of surface presents great room for the action of wind, the waves here run so high, as at times to overwhelm the canoes by which it is navigated. On our passage from Pevas to Saint Pablo, we experienced two storms; but owing to the long experience of the Americans, it rarely happens they are surprized in the middle of the river, and no imminent danger is to be apprehended, except where they are prevented from seeking shelter at the frequent mouths of small rivers or rivulets. Immediately after the subsidence of the wind, the current of the stream restores the surface to its pristine tranquillity.

The greatest peril in navigating this river arises from the frequency of uprooted trees sticking in the sand or mud, and concealed below the surface; we ourselves, by striking against one thus under water, on approaching the shore to gather some wood recommended as efficacious in the dropsy, were nearly overset. To avoid such accidents, the canoes are kept at a distance from shore, when, owing to the great depth, such trees as are carried along by the current float, and, being seen from a distance, are easily avoided.

I shall not dilate on another accident, much less common, but always fatal, to which those are liable who keep near the coast, I mean the sudden fall of trees, whether owing to caducity, or the ground beneath them being gradually undermined by the waters. Many canoes with all their crews have by such casualties been entirely overwhelmed, though, unless on similar occasions, the drowning of a native is an occurrence never heard of.

On the immediate banks of the Marañon there is now no warlike tribes inimical to Europeans, all having either submitted or withdrawn themselves to the interior: still,

\* By reference to the letter of Mr. Godin, will be seen, that two settlements, since the voyage of M. de la Condamine, have been formed; the one Loreta, belonging to the Spaniards, *below* Pevas, the other Savatinga, belonging to the Portuguese, *above* San Pablo, at the mouth of the river Yavari.

in some places, it would be hazardous to sleep on shore. But a few years back the son of a Spanish governor, whose father we knew at Quito, on descending this river, having ventured to land, was surprised in the woods, and massacred by savages from the interior, who by unlucky chance had stolen as far as the banks of the river. The fact was related to us by a companion of his who escaped the danger, and is now settled at one of the Portuguese establishments.

The missionary at St. Pablo, apprised before-hand of our coming, had prepared for us a large canoe, pirogue, or brigantine, with fourteen rowers and a master. He moreover afforded us, in another canoe, a Portuguese for a guide; indeed from him, as well as from the whole of the monks of his order, we received courtesies which made us for the time forget we were in the centre of America, five hundred leagues from countries inhabited by Europeans. At St. Pablo we first began to notice, in lieu of rustic chapels, and bowers for dwellings made of reeds, houses and churches of stone, brick, and plaster, neatly whitened. We were likewise agreeably surprised at meeting here amid the deserts with native women all clad in Britany linen, coffers with locks and keys, iron utensils, needles, knives, scissars, combs, and a variety of little European articles imported hither annually by the natives, who purchase them in barter for the wild cocoa they gather on the banks of the river, and which they transport to Para. This commerce spreads among these people a semblance of ease and comfort which at first glance distinguishes the Portuguese from the Spanish settlements higher up the river. The latter, as the inhabitants hold no intercourse with their neighbours down the river, but draw every thing from Quito, whither they go scarcely once in a year, and from which they are effectually as much divided by the Cordilleras as by a sea a thousand leagues in breadth, in every particular exhibit the difficulty with which the conveniences of life are procured.

The canoes in use among the Portuguese, and which we employed down the river from St. Pablo, are much larger, and far more convenient, than those in which we navigated among the Spanish settlements. The trunk of a tree, which constitutes the whole body of the latter, serves only to frame the keel and bottom of these: in constructing a vessel of this kind, the Portuguese first split the tree, and hollow it out with the axe; they afterwards open it by means of fire to give it breadth: but as the depth is consequently diminished by this process, they add planks to the sides, which are fastened to ribs fixed in the keel-tree. The rudder in these canoes is so contrived, that the tiller in nowise inconveniences the cabin or little apartment fashioned in the poop. Some of these vessels are sixty feet long, by seven broad, and three and a half deep; while others again are much larger, and are manned with forty oars: most of them have two masts and sails, a very material advantage on ascending the stream under favour of the east winds, which prevail from October to May. About four or five years ago, one of these brigantines of moderate size, decked over, and manned by a French trader and three mariners of the same nation, to the great astonishment of the inhabitants of Para, ventured well out to sea, and in six days arrived at Cayenne from Para, a voyage, as will be seen, (from my following the common practice of the country and coasting along shore, as best suited the object I had of taking a chart of the coast,) which I was two months in completing.

In five days and nights, not including about two days' halt at the intervening settlement of Yvirataha, Traquatua, Paraguari, and Tefé, we completed our voyage from St. Pablo to Coari. Coari is the last of the six settlements of the Portuguese Carmelite missionaries; the five first have risen out of the wreck of the establishment anciently formed by Father Samuel Fritz, and composed of a variety of nations, most of them emigrants

emigrants from their former abodes. The whole fix are stationary on the southern side of the river, on which the land lies higher, and is sheltered from floods. Between Saint Pablo and Coari, we noticed the confluence with the Amazons of a number of large and beautiful rivers. From the south, the chief are the Yutay, of superior volume to the Yuruca, by which it is succeeded, and which, at its mouth, has a breadth of three hundred and sixty-two toises; the Tefé, called by Father Acuña the Tapi, and the Coari, which some years back was regarded as a lake; the direction of all is from south to north, their sources in the mountains eastward of Lima and north of Cusco. They are all of them navigable for a space requiring several months to ascend, proceeding from their mouths; and different American natives relate, that on the banks of the Coari, in the higher lands, they had observed an open country, flies and a number of horned cattle (the spoils of which they exhibited on their return), objects to which they were unused, and which prove that the early waters of these rivers take their course through countries widely different from those they inhabit, and, no doubt, contiguous to the Spanish colonies of Upper Peru, where, as is known, the multiplication of cattle is very great. On the northern side, the Amazons likewise receives, between the two places adverted to, two large and famous rivers; the Yca, which, like the Napo, flows from the vicinage of Pasto, north of Quito, where the missionary establishment of Franciscans, called Sucumbios, is situate, and where the inhabitants call it Putumayo; the Yupura, the sources of which are farther north, and which, in its early progress, is denominated the Caquetá, a name utterly unknown by the inhabitants at its different mouths, for it empties its waters into the Amazons by seven or eight branches, which leave the main trunk in succession, and at such distance the one from the other, that there is an interval of a hundred leagues between the point of entrance of the first and the last of them. The Americans on their banks give various names to these, which have caused them to be mistaken for different rivers. Yupura is that by which one of the largest is known, and, following the practice of the Portuguese, who have extended this name on ascending it, I give the same denomination, not only to that branch so called by the natives, but likewise to the trunk itself. The whole of the country watered by these streams is so low, that when the water in the Amazons is at its greatest height, it is flooded, and admits the passage of canoes from one branch to the other, as well as from these branches to lakes in the interior. The banks of the Yurupa are in some places inhabited by those ferocious nations of whom I have already spoken, who mutually destroy each other, and who, many of them, devour their captives. The trunk of this river, and indeed its branches, are frequented by few other Europeans besides those of Para, who resort thither by stealth to purchase slaves. We shall advert again to the Yupura, in speaking of the Rio Negro.

In these parts it was that Texeira, ascending the river in 1637, received in exchange, from the ancient inhabitants of an American village, certain trinkets of a very fine gold which, assayed at Quito, proved to be twenty-three carats fine. This village he called The Golden. On his return, he planted a land-mark, and took possession of it in the name of His Majesty of Portugal, on the 26th August 1639, by an act which is still preserved in the archives of Para, in which it was seen by me. This act, signed by all the officers of his detachment, states the position of the place to have been on high land opposite to the mouths of the Golden River.

Father Acuña declares that by different channels which he points out, there is a communication between the Yupura and the Yquary, the river which he calls the Golden. He adds, moreover, that the inhabitants of the banks of this river carry on traffic

traffic in this metal with the Manaos \* their neighbours, and these again with the people of the banks of the Amazons, of whom he himself purchased a pair of golden ear-rings. Father Fritz in his journal states, that in 1687, that is to say fifty years later than Father Acuña, he saw eight or ten canoes of Manaos, who, taking advantage of the floods, had proceeded from their abodes on the Yurubesh, to trade with his flock on the north bank of the Amazons. He says that among other articles they brought small plates of beaten gold, which these same Manaos received in exchange from the Americans of the Yquiari. All these places and rivers are laid down on the chart of this Father. So many concordant testimonials, proceeding all from respectable individuals, leave no room for doubting of the truth of these facts; and this, notwithstanding the river, the lake, the gold mine, the land-mark, and even the Golden village itself, have vanished like a fairy palace, so that on the very spots designated all memory of them is lost.

Even in the time of Father Fritz himself, the Portuguese, forgetting the title on which their pretensions were founded, insisted that the land-mark raised by Father Texeira was placed higher up the river than the province of Omaguas, while, running into the opposite extreme, Father Fritz, a missionary subject of the crown of Spain, maintained that it was reared only in the neighbourhood of the river Cuchivara, lower towards the mouth by two hundred leagues. As is ever the case in disputed matters, each party launched into extremes. As for the spot where the land-mark was planted in the Golden village, if the district in which the fourth Portuguese mission is situate descending the river, be well examined, which is called Paraguari, and stands on the south side of the Amazons, some leagues above the mouth of the Tefé, where I observed the latitude to be  $3^{\circ} 20' S.$  it will be found to unite all the characteristics by which the site of the famous village is marked in the act of Texeira, dated at Guayaris, and in the relation of Father Acuña. The Gupura consequently, one of whose mouths is opposite to Paraguari, will be the Rio de Ouro, or Golden river, the mouth of which noticed in the same act as being opposite to the village. Remains to know what have become of the Yurubesh and Yquiari, to which Father Acuña gives the name of the Golden River, and to which you ascend by the Tupura; the discovery of this cost me somewhat more pains, I think however that I have resolved the question, and perhaps found the origin of the Parima Lake and the celebrated Dorado, but regularity and precision require the postponement of the discussion to the period of our treating of the Black River.

In the course of our navigation, we enquired of the people of various nations, if they had any knowledge of those warlike women which Orellana pretended to have encountered; and if it were true they lived apart from men, receiving them but once a year, as is related by Father Acuña, in whose narrative this forms a part singularly curious, and well worthy of attention. We uniformly were answered, that they had heard their fathers speak of such things, and repeated many particulars which it were tedious to detail, but which tended to confirm the fact, that in this continent did exist a republic of women, who lived entirely separate from the men, and who withdrew towards the north into the interior, either by the Black River or some other which flows on the same side into the Marañon.

\* Father Fritz writes Manaves. In the French translation of Acuña's narrative, the word is disfigured to Mavagus. The Portuguese at present write indifferently either Manaos or Manaus, pronouncing the word Manaos.

An inhabitant of St. Joachim de Omaguas informed us that we should probably find at Coari, an old man whose father had seen these Amazons, but arriving there, we found the individual alluded to was dead; we however conversed with his son, who seemed to be seventy years of age, and who was the chief of his tribe in the village. He assured us that his grandfather had in reality seen them pass by at the entrance of the Cuchiura river, that they came from the Cayamé which falls into the Amazons on the southern side, between the Tefé and the Coari, and that he had spoken with four of them, one of whom had an infant at the breast: he moreover told us the names of each of them, and added that on leaving Cuchiura, they crossed the Great River and proceeded towards the Black River. I omit here several particulars related, unlikely in themselves, but which at bottom were of little import. Below Coari, the natives every where related to us the same facts, varied indeed by circumstances, but which agreed in the main.

The Topayos especially, of whom in their place more express mention will be made, as well as of certain green stones called Amazons' stones, relate that they inherit them from their forefathers who obtained them from the Cougnantainsecouima, a word signifying in their language, women without husbands, among whom as they say they are found in abundance.

A native inhabitant of Mortigura, a missionary settlement in the vicinage of Para, offered to show me a river, by sailing up which I might, he assured me, ascend to within a short distance of the country at this very time inhabited by Amazons. This river is called Irijo, and since this conversation passed I failed by its mouth, which is between Macapa and the North Cape. According to this man, it is necessary, in order to reach the country inhabited by these Amazons, to travel for several successive days westward, through woods, and cross a mountainous country.

An old soldier once belonging to the garrison of Cayenne, but now settled near the falls of the river Oyapoc, assured me that being one of a detachment sent into the interior in 1726, for the purpose of exploring the country, they had penetrated into a part inhabited by the Amicouanes, a nation with long ears. The region inhabited by these people lies beyond the sources of the Oyapoc, and in the neighbourhood of a river which falls into the Amazons. Among this nation he noticed that their wives and daughters wore necklaces formed of the green stones I have before mentioned; and enquiring whence they procured them, he was answered from the women without husbands, whose territories were seven or eight days journey further towards the west. This nation of Amicouanes inhabit an elevated country at a distance from the sea, where the rivers do not yet admit of navigation; it follows therefore that little likelihood exists of this tradition having passed hither from the inhabitants of the Amazons, with whom they have no intercourse, the Amicouanes knowing of no other nations but those their immediate neighbours, from among whom the Frenchmen belonging to the detachment selected their guides and interpreters.

It is necessary to observe, that not only the testimonials adduced, but also others passed by in silence, and those of which mention is made in relations given in 1726, and since then by two Spanish governors\* of the province of Venezuela, are alike in unison with respect to the fact of the existence of Amazons; but what is no less deserving of remark, while these different accounts designate the point of retreat of these American Amazons, some towards the east, others the north, and others again the west, these several directions converge in one common center, that is, the mountains

\* Don Diego Portales lately a resident of Madrid, and Don Francisco Torralva who was his successor.

in the midst of Guyana, a district to which neither the Portuguese of Para, nor the French of Cayenne, have hitherto penetrated. Yet notwithstanding these corroborations I must confess, that I shall give credence to the existence of Amazons at this time, in the spot pointed out, with great reluctance, until more positive proofs be gradually afforded by the natives of the countries in the neighbourhood of the European colonies on the coast of Guyana; but this migratory nation will very possibly again have changed its residence; or, what to me appears a more probable event than any other, will have forsaken its antient habits, either in consequence of being overpowered by some other nation, or of the maidens having at length lost the aversion of their mothers to the company of men. Thus, though no remaining vestige should be found of this feminine republic, this would not yet prove that none such had ever existed.

Sufficient on the contrary has been adduced to determine the historical fact of the existence at one time, of a nation of women who had no men living with them. For the customs of this nation, and especially that of cutting off one of their breasts, as, trusting to the tales of American natives, Acuña relates; these are accessorial circumstances, independent of the fact itself, and are probably exaggerations or inventions of Europeans informed of the practices attributed to the Amazons of Asia, and which a fondness for the wonderful may have caused the natives of America learning these tales from them, to interweave in their narratives. In fact, it is stated, that the Cacique who admonished Orellana to be on his guard against the Amazons, whom in the language of his country he denominated Comapuyaras, describing them as but with one breast; and the native of Coari, on repeating the relation of his grand-father who saw four Amazons, one of them suckling her child, made no mention of this peculiarity, one of too remarkable a nature to have escaped observation.

I return to the principal fact. If, in refutation of the existence of a nation of this description, be alledged the want of probability, and the next to moral impossibility, that such a feminine republic could be founded and subsist, I shall not attempt to support it by instancing the antient Amazons of Asia, nor the modern ones of Africa\*, as what we read of these in antient and modern authors, is at best much mingled with fable, and open to dispute; but shall confine myself to remarking that if ever such a nation had existence, there is most reason to conclude it must have been in America, where the frequent wanderings of the women, who often accompany their husbands to war, and the hardships of their domestic life, might not only originate such an idea, but likewise furnish them with numberless opportunities of shaking off the yoke of their tyrants, of forming an independent establishment, and of avoiding that vilifying condition of slavery, so little removed from that of beasts of burthen, in which they had previously lived. Such a resolution once formed, it would neither be more extraordinary, nor more difficult to put it in execution than similar plans, in the European colonies of America; whence slaves, who weary of ill-treatment, or disgusted with their condition, so frequently fly to the woods, either in bands, or where no associates are found, alone; thus passing years, and oftentimes their whole lives, in the solitude of the unbounded wilderness.

I am aware that if not all, yet the majority of the natives of South America are liars, credulous, and prone to the marvellous; but none of these people could ever have heard of the Amazons of Diodorus, Siculus, and Justin, previous to the arrival of the Spaniards among them; but even then Amazons were spoken of as existing in

\* See Father Labat, and the description of Eastern Ethiopia by Father Juan de Santos, in Portuguese, Lisboa, and the French translation at Paris.

the center of the country, and have since been by nations who never had held commerce with Europeans. This is proved by the advice given by the Cacique to Orellana and his people, and by the traditions related by Father Acuña and Father Baraze\*. Is it possible to conceive that savages, inhabiting countries so distant one from the other, should have leagued together in inventing the same fact, and that this supposed fable should be so uniformly and so generally adopted at Maynas, at Para, in Cayenne, and in Venezuela, among so many nations who comprehend not one the language of the other, and who have no intercourse whatever?

Moreover, I have not enumerated the authors and travellers† of different nations of Europe, who during more than two centuries, have continued to speak of the existence of Amazons in America, and of whom many pretend to have seen them, contenting myself with the adduction of new testimonies, which Mr. Maldonado and myself were enabled to collect on our way. A discussion on this question may be seen in the preface to the first book of the Teatro Critico of Father Feijoo, a Spanish Benedictine, the work of his learned disciple Father Sarmiento of the same order.

On the 20th of August we left Coari in a fresh canoe, and with another crew. The Peruvian language spoken by Mr. Maldonado and our domestics, and of which I had a slight knowledge, enabled us to hold converse with the natives of the country, in all the missionary settlements of the Spaniards, in which it has been the study of these to make it the common language. At St. Pablo and at Tefé we had Portuguese interpreters, who spoke the Brazilian tongue, introduced in like manner throughout the whole of the establishments of the Portuguese missions; but meeting with none at Coari, where, spite of our diligence, we failed in arriving sufficiently in time for the great missionary canoe dispatched to Para, we found ourselves among the natives with whom we could hold no discourse other than by signs, and the help of a short vocabulary I had framed of questions in their language, but which vocabulary unfortunately could not lead to the comprehension of their answers. I was nevertheless enabled to gather some small information from them, especially the names of rivers. I likewise remarked that they were acquainted with a number of fixed stars, and that they gave the names of animals to different constellations. The Hyades, for example, or the head of the bull, they call Tapiera Rayouba, from a name which now signifies in their tongue, the bull's jaw. I say now, because, since bulls have been imported from Europe into America, the Brazilians, as well as the natives of Peru, have applied to these animals, the name which either of them before in their maternal tongue gave to the elk‡, the largest of the quadrupeds they knew before the arrival of Europeans.

The day after we left Coari, continuing our progress down the river, we passed on the northern side of one of the mouths of the Yupura, about a hundred leagues distant from the first; and the succeeding day, on the south side, the mouths of the Purus, as it is now called, formerly denominated the Eucrivara, from the name of a village in its neighbourhood; in this village it was that the grand-father of the old Indian of Coari was visited by the Amazons. The Purus is inferior in volume to none of the rivers which swell the current of the Marañon, and if the native Americans can be credited, is equal in breadth to even that river itself. Seven or eight leagues below the

\* Lettres edifiantes et curieuses, tome x.

† Americo Vespucci, Halderic Schmiedel, Orellana, Betrio, Sir W. Raleigh, Fathers Acuna, Artieda, Baraze, &c.

‡ This is a mistake of Condamine; Tapiura, in the Brazilian tongue, does not signify an elk, but the Tapir, an amphibious animal about two feet high by forty inches in length, sometimes wrongly termed a Hippopotamus. TRANS.

confluence of the two, at a spot where no islands were, and where the breadth of the Marañon was from one thousand to one thousand two hundred toises, while stemming the current with all sail set, in order, as well as possible, to keep the boat stationary, I founded, but found no bottom with one hundred and three fathoms of line.

On the 23d we entered the Rio Negro, or Black River, another sea of fresh water which flows into the Amazons on the northern side. The map of Father Fritz, who never entered the Rio Negro, and the last map of America by Delisle, which copies that of Fritz, represent this river as having a course from north to south while the fact is according to the relations of those who have ascended it, that its course is from west to east, with a slight inclination towards the south: that such is its direction for several leagues above its confluence with the Amazons, I myself had ocular demonstration, having observed that at this point its course is so nearly parallel to that of the Amazons, that, were it not for the transparency of its waters, which has earned it the distinction of the Black River, it might be mistaken for a branch of the Amazons, separated by an island. We ascended two leagues up this river as high as to the fort built by the Portuguese on its northern bank, at its narrowest breadth, where I measured it and found it to be one thousand two hundred and three toises in width. The latitude of the fort I observed to be  $3^{\circ} 9' S$ . This was the first settlement we came to belonging to the Portuguese on the northern side of the river Marañon. The Rio Negro has been frequented by the Portuguese more than a century, and a great traffic for slaves is carried on, on its banks. On these there is constantly a detachment of Portuguese from the garrison of Para, encamped for the purpose of keeping the different American nations in awe, and of facilitating the slave-trade within the limits prescribed by the laws of Portugal; and every year this flying camp called the Redemption Troop advances farther into the country. The Captain Commandant was absent from the fort on our arrival, and I halted here but four and twenty hours.

On the whole of the banks of the Black River hitherto explored, are settlements of Portuguese missionaries of the same order of Mount Carmel, we had constantly noticed in descending the Marañon, after quitting the settlements of the Spanish missionaries. On ascending this mighty river for a fortnight, three weeks, nay even a longer time, it is yet found of still greater breadth than at its mouth, owing to the multiplicity of islands and lakes that it forms. Throughout the whole interval of space, its banks are elevated and never overflowed; they are less thickly covered with wood, and altogether the country presents an aspect widely different from that which borders the Marañon.

While at the fort on Rio Negro, we obtained more distinct information respecting the communication that exists between this river and the Oronoco, and, consequently, between the latter and the Amazons. I shall not detail the various proofs of this fact which I gleaned with care on my voyage, (of which, the most material was the indisputable testimony of a native American female, belonging to the Spanish missions on the banks of the Oronoco, of the Cauriacani nation, and the village of Santa Maria de Bararuma, with whom I held conversation, and who had been brought from thence in a canoe to Para,) these evidences being rendered superfluous by that ultimately obtained. By a letter from the reverend father John Ferreyra, rector of the college of Jesuits at Para, I have recently learnt that last year (1744), the Portuguese belonging to the flying camp, after ascending from river to river, at length met the superior of the Jesuits of the Spanish missions from the banks of the Oronoco, whom they brought back with them by the way they came, without once landing to their camp on the Rio Negro. The fact, therefore, of the connection of the two rivers, no longer admits of doubt, however contradicted by the recent author of *El Orinoco Ilustrado*, (Madrid,

1741, p. 18.) long a missionary on the banks of the Orinoco, who, in 1741, regarded such connection as impossible. He was certainly ignorant at that time, that his own letters to the Portuguese commandant, and the almoner of the Redemption Troop, were forwarded by the very channel reputed fabulous to Para, where I saw the originals themselves in possession of the governor; but even this author himself, by what I learn from Mr. Bouguer, who saw them last year at Carthagena in America, is by this time completely undeceived.

The positive certainty of an existing communication between the waters of the two rivers, which the cited testimonials adduce, is a geographical fact the more important, from the circumstance that, though this union be unequivocally marked on ancient maps, it has been generally suppressed in those given by modern geographers, as if by common consent, and treated as chimerical by those who were supposed to have the best means of information. This, probably, is not the first example of theoretic conjecture, supported by plausibility prevailing over facts attested by travellers of faith; nor the only instance in which criticism, too far extended, has ventured on denial, where justice allowed but of doubt.

Yet, where does this communication between the Orinoco and the Amazons take place? This we can learn with exactitude only when the court of Portugal shall think fit to publish a chart of the Rio Negro. In the meantime, I shall explain my ideas on this subject, grounded on a comparison of the several accounts I collected in the course of my travels, with the collective narratives, memoirs, and maps, in manuscript or in print, which I have been able to consult, as well on the spots themselves as since my return, and especially with the draughts sketched by my companion and myself in the presence of, and after hearing the relation of the best informed, among those of the missionaries, and others, who had ascended and descended the Amazons and the Black River.

From these combined accounts, the one strengthening and elucidating the other, I gather, that a small village of native Americans in the province of Mocoa (eastward of that of Pasto, and in 1° N.) gives its name of Caquetá to a river on the banks of which it is situate. Descending lower, this river divides into three branches; one, the famous Orinoco, which mixes with the sea opposite the island of Trinidad; takes a north-eastern direction; another, the same as lower down, is called Rio Negro by the Portuguese, flows eastward with a gentle declination towards the south; the third, the Yapura so often mentioned, has likewise an eastward course, but with a more southern inclination than the preceding. I am uncertain whether or no this last river leaves the main trunk earlier than the two preceding, or whether it be merely an offspring of the second branch, the Rio Negro: in determining, I have only conjecture for my guide; but this, founded on substantial reasoning, leads me to think the former of these positions most worthy of assent. However this may be, it is at least plain that, if the Yapura be acknowledged as a branch of the Caquetá, (a name unknown on the banks of the Amazons) the whole of the relation of Father Acuña respecting the Caquetá and Yapura, becomes easy of comprehension, and accordant. It is well known, that the diversity of names given to places, and especially to rivers, by the various nations inhabiting their banks, has at all times occasioned to geographers the greatest perplexity.

In this island it is, or rather this new Mesopotamia, formed by the Amazons and the Orinoco, united by the Rio Negro, that the fabled Golden Lake Parima, and the imaginary city Manoa del Dorado, have long been sought, a speculation which has occasioned the death of so many individuals, and, among others, of Sir Walter Raleigh,

leigh, a famous navigator, and one of the most shining characters England can boast, one also whose tragical history is so generally known. It is visible from the expressions of Father Acuña, that, in his time, the existence of this fanciful chimera was far from general discredit. I must here apologize for a slight geographical detail which too closely belongs to my subject to be omitted, and which may serve to unravel the origin of a romance, which nothing but a thirst for gold could render credible: a town with roofs and walls of golden plates, a lake with sands of gold!

Here it will be necessary to call to mind what before has been observed respecting the Golden River, and the previously quoted facts, extracted from the narratives of Fathers Acuña and Fritz.

The Manaos, according to the last author, were a warlike nation, the dread of all their neighbours. They long resisted the Portuguese, with whom at present they are on friendly terms: many have settled among the tribes and missionary settlements on the Rio Negro; while some still make long excursions into the countries inhabited by roving tribes, and are serviceable to the Portuguese in their slave-trade. Two of this nation it was who penetrated as far as to the Oronoco, and bore away and sold to the Portuguese the American Christian female I have before mentioned. Father Fritz, in his journal, says expressly, that those Manaos whom he saw trading with the inhabitants of the banks of the Amazons, and who procured their gold from the Yquiari, came from the banks of the Yurubesh. By dint of inquiry, I learnt, that after five days' sailing up the Yupura, a lake occurs on the right, which it takes a day to traverse, and which is called Marahi, or Para-hi, a word signifying, in the Brazilian tongue, River Water; that from this lake, by dragging the canoe along where insufficient water is found, but where, during the floods, there is depth enough for navigating the vessels in use, one comes to another river called Yurubesh, by which, floating with the current, a passage to the Black River is effected in five days; finally, that this last river, a few days' sail above the confluence of the Yurubesh, received another called Quiquiari, in which were many cataracts, and which proceeds from a mountainous country abounding in mines. Can it be doubted that these rivers are the same as are alluded to under the names of Yurubesh and Yquiari by Fathers Acuña and Fritz? The latter, it is true, gives a different course to these two rivers, making the Yurubesh a tributary to the Yquiari, and the latter to disembogue its waters into a great lake in the interior; but, founding his relation on the testimonies of American natives alone, from whom it is difficult to obtain any clear or distinct account, especially where the intervention of an interpreter is necessary, it is far from surprising, if errors should occur; on the other hand, the names of these rivers are preserved with but the slightest alteration. On the map of Father Fritz, a large assemblage of Manaos, which he calls Yenefiti, is laid down as inhabiting this district. Of this I was enabled to obtain no satisfactory intelligence, which is not to be wondered at, when we reflect on the migrations and dispersion of the Manaos' nation; at the same time, it seems highly probable that, from the capital of the Manaos, the city of Manao was invented. I lay no stress whatever on the possible derivation of Parima from Marahi or Para-hi, but confine myself to authentic data. The Manaos had a considerable assemblage or town in this district; they had in their vicinage a great lake, nay several lakes, for collections of water are very common in a country so low as this, and so much liable to inundations. The Manaos, moreover, brought gold from the Yquiari, and flattened it into small plates: these are facts well established, and which may have been exaggerated so as to have given birth to the fabulous city of Manao and the Golden Lake. If the casuist should dwell on the disproportion between the small plates of gold of the Manaos and the roofs of golden  
tiles

tiles of the city of Manao, the particles of gold washed from mines by the Yquiari, and the golden sands of the Parima lake, he must yet allow, great as it really is, that cupidity and prejudice, on the part of European adventurers, determined on finding what they fancied had existence; and, on the part of the native Americans, interested in ridding themselves of unwelcome guests, a genius prone to exaggeration and lies, that these, I say, are media sufficient to account for the assimilation of objects thus widely dissimilar in themselves, and the change and disfigurement of facts, so as not to be known for the same. The history of the discoveries in the new world furnish more than one instance of metamorphoses equally strange.

I possess an extract from the journal and a copy of the map of Nicolas Hörtzman, a native of Hildesheim, probably the last traveller who attempted a discovery of these visionary incognitæ. They were given to me at Para by the author himself, who, in the year 1740, ascended the river Essequibo, whose mouth is on the ocean between the rivers Surinam and Orinoco. After having traversed lakes and vast tracks of land, now dragging, now carrying his canoe, and enduring in his excursion incredible toil and fatigue, but without any traces of the object of his search, he at length came to a river with a southern course, by which he descended into the Rio Negro on its northern side. The Portuguese have given it the name of Rio Branco, or White River; and to the river Essequibo, the Dutch have attached that of Parima; doubtless, because of their supposing it to proceed from the lake of that name; and, for a similar reason, one of the rivers of Cayenne has a like denomination. It may be conceived by some, that this Parima lake was one of those crossed by the adventurer last noticed, but in any of them, he found so little that corresponded with the idea he formed of the Golden Lake, as to be far, in my opinion, from adding his sanction to such a conjecture.

The crystalline waters of the Black River had barely lost their transparency by blending with the pale and muddy current of the Amazons, before, on the south side, we drew near the first mouth of another river, scarcely secondary to the preceding, and no less resorted to by the Portuguese. By them it is called Rio de Madera, or the Wood River, possibly from the abundance of trees brought down by its current after floods. Some idea of the length of its course may be entertained, from the fact of its having been ascended in 1741 as high as to the vicinage of Santa Cruz de la Scirra, an episcopal see of Upper Peru, in latitude  $17\frac{1}{2}^{\circ}$  south\*. In its superior part, where the missionary settlement of Moxes is established, this river is called Mamore; of its course, in this part, the Jesuits of Lima published a chart in 1713, which is given in Book XII. of *Lettres Edifiantes et Curieuses*; but the earliest source of the Madera is in the neighbourhood of the mines of Potosi, but little distant from that of the Pitcomayo, a tributary of the great river De Plata.

The general breadth of the Amazons below the two last noticed rivers, the Rio Negro, and the Madera, is about a league; where islands occur, its breadth from bank to bank is two to three leagues; but in time of the greatest height of its waters, the widely spreading deluge has no limits. At this point it is that the Portuguese of Para give the name of Amazons to the river; higher up, it is known by no other than that of O Rio de Solimoes, the River of Poisons, a distinction which probably originated from the envenomed arrows before noticed, the most common weapon of the inhabitants of its shores.

\* The whole course of this large river exceeds 1,700 British miles, during more than 1,500 of which it is navigable; and the greater part of this length it is of considerable depth.

On the 28th we passed the Jamundas on the left. Father Acuña calls this river Cunuris, and states it to be that in which Orellana was attacked by the warlike women whom he calls Amazons. A little below, we landed on the same side opposite to the Portuguese fort Pauxis, where the bed of the river is narrowed to a breadth of nine hundred and five toises. The tide rises thus high, at least the waters rise and fall visibly every twelve hours, and each day at a later period than on the preceding, as upon the coast. As the highest rise of the tide at Para is scarcely ten feet and a half, as I ascertained by new observation, it follows that from Pauxis to the sea, a distance of upwards of two hundred leagues, or, according to Father Acuña, three hundred and sixty, the fall of the river is not more than ten feet and a half; this well agrees with the height of the mercury in the barometer which, at Fort Pauxis, fourteen toises above the level of the water, was about one and a fourth line higher than at Para on the sea.

It will readily be conceived that the flow of tide will not be experienced at the strait of Pauxis, more than two hundred leagues from Cape North at the mouth of the Amazons, until many days after its occurrence at that cape, instead of in five or six hours, the ordinary duration of the flux of the sea. In fact, between the coast and Pauxis, there are a score of points which mark, as I may say, the diurnal progress of the tides in ascending the river. At all these different points the height of tide is noticed at the same instant as on the coast; thus, supposing, for more clear explanation of what I mean to express, that the interval between each two of these points were twelve leagues, there would be high water within such interval at every intermediary hour; that is to say, at every league ascending from the sea, one hour later than at the preceding. The same, in course, takes place with respect to low water. These alterations, however, of ebb and flow, as before remarked, are constantly and naturally subject to the same retardment every day as on the coast. A similar progression of undulatory tides, in all probability, prevails at open sea, making the period of high and low water gradually later in proportion to the distance of each spot from the point where the first rise and fall of the sea takes place till the breaking of its waves on the shores. The graduation of the decrease of velocity with which the tide flows on ascending the river; two opposite currents observed on the flux of tide, the one at the surface, the other at a certain depth; two others, one of which runs up along the margin of the river and increases its speed, while the other, in the middle of the river, runs down, and is stayed in its progress; and, finally, again, two other opposite currents, which frequently meet in the vicinage of the sea in the natural cross-channels, where the flux at one instant enters either extremity; all these facts, of which I am uncertain whether some of them have ever been duly noticed, and the different combinations of them, together with divers other accidental circumstances relating to the tides, that in a river in which they ascend to a greater distance in all probability from the sea than in any other in the world, are doubtless more numerous and more varied than in any part; would assuredly give room for curious, and perhaps altogether, novel remarks; but, in order to leave little to conjecture, they would require a succession of minute observations, a long residence at each spot, and a delay, which but ill agreed with the reasonable anxiety I experienced of revisiting France, after an absence already of nearly nine years' duration. I did not omit, however, to pay attention, in the neighbourhood of Para and the North Cape, to a phenomenon incident to the spring-tides, of greater singularity than any to which I have alluded, and to which, at due season, I shall advert.

We were received at Pauxis, as we had every where else been, from the instant of our entering the territories of Portugal. The Commandant, Captain Manuel Maziel Parente,

Parente detained us four days at the fort, and again another day at his country-house; and afterwards accompanied us six or seven days as far as to the fortress Curupa, half way to Para. The positive orders of His Portuguese Majesty, favourable in extreme to my safety and comfort, were known at every station before I arrived, and insured the most obliging treatment, not to myself alone, but to all who accompanied me; a treatment continued through the whole of my journey to Para, for which I am under the highest obligations to a minister who loves the sciences, who duly values their utility, and whose careful vigilance was ever on the alert to provide, during our long sojourn at Quito, for all the wants of our numerous companions.

In less than sixteen hours, we arrived opposite the fortress of Topayos, at the entrance of the river of similar name; this again is a river of the first order; it descends from the mines of Brazil, crossing unexplored countries inhabited by wild and warlike nations, whom the missionary Jesuits are employed in civilizing.

The town of Topayos has risen out of the ruins of Tupinambara, formerly situate in a large island at the mouth of the river Madera; and its inhabitants are nearly all that remains of the brave Tupinambos, but two centuries back the lords of Brazil, and through which their language yet prevails. For their history and long peregrinations, the narrative of Father Acuña may be consulted.

Among the Topayos those green stones are more common than with any other people, known by the name of Amazonian, of unknown origin, and which formerly were in high request for their supposed efficacy in curing the stone, nephritic colic, and epilepsy, and on which a treatise, under the title of *Pierre Divine*, or the Divine Stone, has been published. These stones differ nothing in colour and in hardness to oriental jade; and as they resist the file, it is inconceivable how the ancient Americans were enabled to fashion them as they did into the shape of various animals. It was no doubt the difficulty of solving this problem which gave origin to a fable so improbable in itself as scarcely to merit refutation. It was seriously asserted, that this stone was nothing else than the mud of the river, which, when recently taken from its bed, might be moulded into any form, and which obtained its extreme hardness by exposure to the air. Yet were this marvel granted, respecting the fallacy of which credulity was not undeceived but by successful experiment alone, still would the lapidary be posed to answer a question of similar nature. This question is, by what means were wrought those rounded and polished emeralds, pierced with two conical holes diametrically opposite one to the other, which are still to be found in Peru, on the banks of the river St. Jago, in the province of Esmeraldas, forty leagues from Quito, and which are accompanied by divers other monuments of the ingenuity of the ancient inhabitants. As for the green stones, they every year become more scarce, as well owing to the unwillingness of the American natives, by whom they are highly prized, to part with them, as to the great number of them which have found their way to Europe.

The 4th, we began to distinguish the mountains in the north ten or twelve leagues in land. To us who, from leaving the Pongo, had navigated two months without seeing one single hill, this spectacle was a novelty. What we saw were the anterior hills of a long chain of mountains extending from west to east, the loftiest ridges of which mountains divide the spring heads of the streams which irrigate the northern plain of the Amazons, and those of Guyana. To these mountains it was, according to tradition in the country, that the Amazons withdrew. Another tradition, no less general, but of the truth of which less contestible evidence is said to be afforded, reputes these mountains to abound in mines of various metals. This last statement, however, though of a nature

to excite the attention of a greater number of inquisitive persons, is, nevertheless, no better substantiated than the other.

On the evening of the 5th, I noticed, at sun-set, that the variation of the compass was  $5\frac{1}{2}^{\circ}$  east. Finding no spot favourable to my landing, I made my observation on the trunk of an uprooted tree driven by the current and fixed against the shore. We had the curiosity to measure the length of this tree, which, from the roots to the shooting of the branches, measured eighty-four feet, and, in circumference, notwithstanding it was withered and stripped of its bark, twenty-four. By this tree, thrown in our way by chance; by the great dimensions of the pirogues of which I have had occasion to speak, hollowed from one single trunk; and by a table without joint, of a hard wood that received an admirable polish, from eight to nine feet long by a breadth of four and a half, which we afterwards saw in the house of the governor of Para, some idea may be formed of the height and beauty of the timber that grows on the banks of the Amazons, and many of the rivers by which its volume is increased.

At night-fall, on the 6th, we left the principal trunk of the Amazons, opposite to fort Para, newly erected by the Portuguese on the northern bank, on the ruins of an old Dutch fort. There, to avoid the strong current at the mouth of the river Xingu, which had proved destructive to many canoes, we entered a natural canal communicating with the last-mentioned rivers. The islands in the mouth of the Xingu, which form a number of channels, prevented my measuring by triangles its actual breadth; but as near as it can be determined by the eye, it is not less than a league. It is the same river which Father Acuña, from what he learnt of natives speaking a different language to those now inhabiting its banks, (and here it is fit I should observe, that in the different tongues spoken, rivers are often known by different names,) calls Paranaíba, and Father Fritz, in his chart, Aoripana; Xingu is the American name of a village, the seat of a mission, some leagues up the river. It descends, like the Topayos, from the mines of Brazil; seven or eight days' journey up this river is a cataract, which, however, does not prevent its being navigable to a height, whither it requires two months to sail up. Its banks abound in two species of aromatic trees, the one called Cuchiri, the other Puchiri. The fruit of them, about the size of a Spanish olive, resembles in flavour the nutmeg, and, grated, is used as a substitute for that spice. The bark of the first has the smell and taste of the clove, which, by the Portuguese, is termed Cravo; whence the French of Cayenne, by corruption, apply to the tree which bears this bark the term *Bois de Crabe*, or Crab-tree. Were it not for the spices obtained from the east, this would be more known in Europe. In many spirituous liquors made in Italy and England, it forms a component ingredient.

After the union of the Xingu with the Amazons, the breadth of this is so considerable, that but for the continued succession of great islands which interrupt the scan of the eye, the spectator on the one bank would be unable to descry that opposite to him\*. At this place we found ourselves happily entirely freed from the musquitoes, gnats, and flies of every species, which had been our greatest torment throughout the whole of our voyage, a torment indeed so intolerable, that the natives themselves never travel without a cotton awning to protect them from their stings during the night. At certain seasons one is entirely enveloped in some parts, especially in the country of the Omaguas, by clouds of these insects, whose stinging causes extreme itching. It is a

\* If less than eleven English miles in breadth, the banks on one side must be visible from the other, allowing them to be each eighteen feet above low water-mark, and the eye of the observer five feet from the bank. TRANS.

well-known fact, and highly worthy of remark, that from the mouth of the Xingu they no longer are seen, or at least are very rare on the right bank of the Amazons, while the opposite bank continues still infested by them. After reflecting on this singularity, and examining the sites of these spots, I conceived this difference to be the consequence of the change in the course of the river at this place; it rising here to the north, the east wind, which almost constantly prevails, must necessarily, coming from sea, drive these insects to the western shore.

On the 9th, in the morning, we arrived at the Portuguese fortress of Curupa, built by the Dutch when masters of the Brazils. The King's lieutenant received us with extraordinary marks of distinction. The three days of our stay were one continued gala, in which was displayed the most profuse magnificence, such indeed as was little to be expected in this country. Curupa is a small Portuguese town, in which are no other natives than such as are slaves to the inhabitants. It is pleasantly situate on high ground, on the south-eastern bank of the river, eight days' sail from Para.

From Curupa, where the ebb and flow is very perceptible, boats move only with the tide; at a few leagues below, a small arm of the Amazons, called Tagipuru, leaves the main channel, which has a northern course, and, taking an opposite direction towards the south, tends to form the great island Joanes or Marayo, disfigured in all maps. From its extremity on this bend it changes its course, and, forming a semicircle, rises north by east, and is shortly lost in an estuary, which receives several large rivers one after the other. The most considerable of these is: first, the Rio de dos Bocas, or the Two-mouthed Rivers, formed of the union of the Guanapu and Pacujas; it is two leagues wide at its mouth, and is laid down in all the old maps, as well as the Laet, under the name of the Para river; the second the Tocantin, of still greater width than the preceding, allows navigation to a height which it requires several months to attain, and, like the Topayos and the Xingu, has its origin among the mountains of Brazil, abounding in mines; finally, the Muju, which, two leagues up from its mouth I found seven hundred and forty-nine toises in breadth, and on which I saw a frigate belonging to His Portuguese Majesty going up under full sail, in order to take, many leagues higher up, certain rare and curious wood, the growth of its banks. On the eastern bank of this river it is that Para is situate, just below the mouth of the river Capim, which, shortly before its disemboguing itself into the estuary, receives another called the Guama. Nothing less than the sight of a correct map is requisite to furnish a distinct idea of the site of this city at the concourse of so many rivers, and prove that it is not without reason its inhabitants are far from conceiving themselves placed on the banks of the Amazons, of which river it is possible that not a single drop bathes the walls of their city; for as well might we say that the Loire flows by Paris, because that river communicates, by the canal of Riare, with the Seine. Indeed there is abundant ground for supposing, that the immense quantity of running water which separates the Terra Firma on which Para stands from the island Joanes, would experience no sensible diminution, though the communication between it and the Amazons should be interrupted by the closure, or deviation of the narrow branch of this river, which comes, as it were, to take possession of all these rivers before recited, by usurping their titles. This, however, if such be chosen, may remain a question; and that I may accommodate myself to the common opinion, I shall not object to stating, that Para stands on the eastern mouth of the Amazons; all that is required of me being, to state in what light this is to be understood.

On my passage from Curupa to Para, without being consulted on the course I chose, I was conducted between islands, by narrow and crooked canals, from one river to an-

other, for the purpose of avoiding the peril attendant on passing their mouths. What ensured my safety, and had been gratifying to another traveller, was far from satisfactory to me, whose chief object was the structure of my chart; in order, mid this tortuous labyrinth of islands and innumerable canals, to preserve the thread of my rout, while it largely multiplied my toil, exacted redoubled attention.

I have hitherto said nothing of the singular fish which the Amazons produces, nor of the rare animals found on its banks. This portion of natural history alone would furnish materials for an entire work, and the exclusive study of it would not only require a voyage expressly undertaken for the purpose, but a traveller whose attention should be called to no other object. I shall merely enumerate some of the most singular.

At St. Pablo de Omaguas I designed, from nature, the largest fresh-water fish that is known, to which the Spaniards and Portuguese have given the name of the Sea-cow or Sea-bull; which, however, must not be confounded with the seal or sea-calf. The one in question browses the grass of the banks of rivers, and in its flesh and fat bears some resemblance to veal. The female has teats, with which it suckles her young. Some writers have increased the similitude supposed between it and the bull, by attributing horns to it, which nature, less generous than they, has denied. It is not amphibious, properly speaking, as it never entirely quits the water; and, indeed, is unable so to do, having only two fins near the head, in shape of small wings, about sixteen inches long, which serve it for hands and feet, and, consequently, merely raises its head out of water to reach the grass it feeds on. The one I designed was a female; its length was seven and a half Paris feet, and its greatest breadth two: I have since seen others of superior size. The eyes of this animal are disproportionate; they are round, and only three lines in diameter; the opening of the ears is still smaller, and can better be compared to nothing than a hole made with a pin. This fish, by some, has been reckoned peculiar to the Amazons, but it is equally common in the Oronoco; it is likewise, though less frequently, found in the Oyapoc, and in many other rivers of Cayenne, and off the coast of Guyana, and very probably in other parts. It is the same animal in genus, though I think of different species, that is called the Lamentin, in Cayenne, and in the French islands of America. It is not met with in the open sea, and is rare near the mouths of rivers; but it is found inland at more than a thousand leagues from the sea in the major part of the great rivers which fall into the Amazons, the Gullaga for example, the Pastaca, &c. In the Amazons itself, it is only stopped in its upward course by the Pongo of Borja; but this barrier is no obstacle to another fish called Mixano, as diminutive as this is large, many of them not exceeding the length of a finger. This fry annually proceed to Borja, at the commencement of the subsiding of the waters, about the end of June. They present nothing singular, if we except the strength they exhibit in stemming and swimming against the current. As the narrow bed of the river necessarily collects them in great number near the strait, they are seen crossing in shoals from one bank to another, and, alternately on either side, overpowering the violence with which the waters are impelled through this strait. When the waters are low, they are taken by hand from the hollows in the rocks of the Pongo, where they rest to resume their strength, and which serve them as so many ladders in ascending.

In the neighbourhood of Para I saw a kind of lamprey, the body of which, like that of the common species, is pierced by many openings, but, at the same time, it possesses the same faculty with the torpido; whoever presumes to touch it with the hand, or even with the end of a stick, experiences a painful numbness in the arm, and a  
shock,

shock, which is said at times to be so powerful, as to lay one prostrate. Of this last asserted fact I had no ocular proof. M. de Reaumur has unfolded the mystery of the secret spring which occasions this wonderful effect in the torpido.

The turtles of the Amazons are much in esteem at Cayenne, being reckoned the most delicious that are known. So numerous are they on this river, of different species and of various size, that they alone with their eggs would yield ample nourishment to the inhabitants of its banks. Tortoises or land turtle likewise abound, called, in the Brazilian tongue, Tabutis; these, at Para, are preferred to the other or river turtle. Either, but especially the latter, will live for months together out of the water, and without any visible nourishment.

Indulgent nature seems, by her prodigality, to favour the general idleness of the Americans, and anticipate all their wants: the lakes and marshes which occur at every step on the banks of the Amazons, and, occasionally, at considerable distance inland, are filled with fish of every kind at the time of the annual inundations; and when the waters fall, they remain in these as in so many natural reservoirs, where they are caught with the utmost ease.

In the province of Quito, in the different countries traversed by the Amazons, at Para, and in Cayenne, a variety of plants are found, which differ from all known in Europe; the leaves or roots of which, thrown into the water, have the faculty of intoxicating fish. While thus torpified, they float on the water, and are taken with the hand; by means of these plants, and by weirs, which they place at the mouth of small streams, the Americans catch as many fish as they please: to preserve these, they smoke them in riddles very rarely, using salt for this purpose; the inhabitants of the mission of Maynas, however, obtain rock-salt from a mountain in the neighbourhood of the Gullaga; and those subject to Portugal, from Para, whither it is brought from Europe.

Crocodiles are very common through the whole course of the Amazons, and even in most of its tributaries. They are sometimes twenty feet in length, and possibly more. In the river of Guyaquil, I saw many before I embarked on the Amazons. They remain for hours and days together stretched on the mud, exposed to the sun, and motionless, and resemble trunks of trees or long pieces of timber covered with rough and dry bark. As those of the banks of the Amazons are less pursued, they are consequently less fearful of man. During the floods, they sometimes enter the cabins of the Americans, and more than one example has occurred, of this ferocious animal having borne away a man from his canoe in sight of his companions, and devoured him without the possibility of rescue.

The most dangerous adversary of the crocodile, and, perhaps, the only one that dares encounter it, is the tiger. A combat between these two animals must present a singular spectacle, but such a fight must necessarily be the result of hazard, and very uncommon. The Americans give this account of it. When the tiger approaches the river's brink to quench its thirst, the crocodile raises its head to seize him, as on similar occasions it attacks steers, horses, mules, and whatever animal presents itself; the tiger then strikes its talons into the eyes of the crocodile, the only undefended part; but this diving into the water carries the tiger with it, which suffers rather to be drowned than forego its prey. The tigers, an animal common to all hot countries covered with wood, which I saw in America, differ neither in size nor beauty from those of Africa. Of them there is a one species with a brown skin without stripes. The Americans are very expert in combating the tiger with a spontoon or half-pike, their common travelling weapon.

In the province of Quito only, and no where on the banks of the Amazons, did I meet with the animal called by the Peruvians Puma, the lion of the American Spaniards. I cannot determine whether it be deserving the name; the male has no mane, and is much smaller than the lions of Africa. I never saw any but such as were dead and stuffed.

It would be no subject of wonder if bears, common but in cold countries, though found on several of the mountains of Peru, should be unknown in the woods of the Marañon, of which the climate is so different; nevertheless, in this part I have heard mention made of an animal called Ucumari, a name that in the Peruvian tongue designates the bear, though I never was able to convince myself of its identity to that beast.

The elk, which is found in some of the wooded districts of the Cordilleras of Quito, is not uncommon in the woods of the Amazons, nor in those of Guyana. I give the name of elk here to the animal known to the Spaniards and Portuguese by the name of Danta, by that of Uagra to the Peruvians, and Tapiira to those of Brasil, and which is called in the Galibi tongue on the coasts of Guyana Maypouri. As the continent in the neighbourhood of the island of Cayenne forms a part of the continent traversed by the Amazons, and adjoins the plain watered by that mighty river, in each country is found most of the animals common to the other.

I designed on my way among the Yameos, a species of weazel which is easily tamed: I was unable to pronounce or write the name by which it was called, but I saw one again in the vicinage of Para, when it was termed Coati, in the Brazilian tongue. This animal is mentioned by Laet.

Monkeys are the most common game, and that most prized by the Americans of the Amazons. In the course of my long voyage down this river I saw so many, and heard speak of such a variety of species, that the mere enumeration of their names would take up much time. There are some as large as a grey-hound, and others small as a rat; I do not mean in this comparison to allude to the diminutive species called Sapajou, but others much smaller, difficult to tame, with long shining hair mostly of a chestnut colour, and sometimes spotted with fawn. They have tails twice the length of the body, a small square head, salient ears, pointed like those of the cat and dog, and not like those of other monkeys, between whom and these there is little resemblance, as these have rather the look and port of a lion. At Maynas they are called Pinches, in Cayenne Tamarins. I had many, but was unable to preserve them: they are of the same species called in the Brazilian tongue Sahuins, in French Sagoins; Laet speaks of them, citing L'Ecluse and Lery. That presented to me by the governor of Para, was the only one of its species ever seen in the country; the hair of its body was silvered, and a beautiful auburn; that of the tail, a shining chestnut approaching to black. It had another singularity still more remarkable; its ears, cheeks, and mouth, were of a vermillion, so lively as scarcely to be taken for a work of nature.

I kept it a whole year, and it was still living while I was writing this description almost within sight of the French shore, to which country I promised myself the pleasure of bringing it alive; but, notwithstanding every precaution I took to guard it from cold, probably owing to the rigour of the season, it died. As I had no convenience on board to dry it in the manner recommended by Mr. Reaumur, all I could do was to preserve it in spirits, but even thus it will probably exhibit sufficient to shew no exaggeration in the description I have given.

This country produces many other rare animals, but most of them have already been described, and are found in divers parts of America, for example, various species of

boars and rabbits, the pac, the ant-eater, the porcupine, the sloth, the tatoo or armadillo, and numerous others, of which some were drawn by me, while of the residue the representations taken by M. de Morainville were left in the custody of Mr. Godin.

It is by no means astonishing that in countries so hot and humid as that of which I treat, serpents and snakes of every kind should be common, I have read, but in what relation I forget, that none of those of the Amazons are poisonous; what however is more certain, while many of them are perfectly innocent, of a number of others the bite is almost constantly mortal. One of the most dangerous is the rattle-snake, remarkable by the variety and liveliness of its colours; but the most rare and singular of all is a large amphibious serpent, from twenty-five to thirty feet long and more than a foot thick, according to report; it is called Tacu Mama, or the Mother of the Water by the Americans of Maynas, and commonly inhabits the large lakes formed by the river-waters after floods. Facts are related respecting them of which not even the fancied evidence of my senses could prevent me from doubting, though I should see them, and which I merely venture to repeat from the serious assurance of their authenticity of the author of *El Oronoco Ilustrado* before quoted. Not only as affirmed by the Americans, does this amazing serpent swallow a goat whole, but also by its breath irresistibly attracts those animals towards it, which it devours. Various Portuguese of Para endeavoured to persuade me of the verity of tales equally improbable, for example, of another immense snake which kills men with its tail. I suspect this last to be of the same species found in the woods of Cayenne. There, experience shews, that notwithstanding its teeth are well calculated to excite terror, a man may be bitten by it, and preserve the marks of its fangs without any dangerous consequence: of this reptile I brought home two skins, one of which, dry as it is, measures fifteen feet long by more than one in breadth. Doubtless others of still larger dimensions have existence. I am indebted for these skins, and various other natural curiosities to the Jesuits of Cayenne, Mr. de Lille Adam commissary of the navy, Mr. Arthur King's physician, and several of the officers belonging to the garrison.

The worm called by the Maynas, Suglacuru; and at Cayenne, Macaque; grows in the flesh of men and animals to the size of a bean, and occasions intolerable anguish. I designed the only one I saw, and have the worm itself preserved in spirits of wine; it is related to originate from the egg of a species of gnat or musquito, but of this there is hitherto no certainty.

Bats which suck the blood of horses, mules, and even men, when unsheltered from them by sleeping under cover, are a torment common to most of the hot countries of America; some of them are of monstrous size; at Borja, and in various other parts they have entirely destroyed the cattle introduced by the missionaries, and which had previously begun to multiply.

The variety of birds of different species in the forests of the Marañon is still greater than of quadrupeds, but it is generally remarked, that scarcely any have a pleasing song, their chief recommendation being their splendid plumage, and the diversity of colours with which they enchant the eye. Among these beautiful works of nature, none exceed the Colibri mentioned by numerous authors, and which is common in America throughout the torrid zone. Of this magnificent bird I shall only remark, that though it is generally understood to belong to hot climates alone, I have no where seen it in such numbers as in the gardens of Quito, the temperate climate of which is rather cool than otherwise. The Toucan, the red and yellow beak of which is so large and disproportionate to its body; and to whose tongue, which resembles a long and narrow quill, great virtues are ascribed; is another bird not peculiar to this country alone.

Of parrots and water-fowl, the varieties, differing in size, colour and form, are numberless; the most rare among the parrots are those entirely yellow, except a small tinge of green at the extremity of the wings. Of this species I saw but two at Para, where the grey with the tip of the wings of a flame colour, so common in Guenca, is unknown.

The Maynas, Omaguas, and various other nations form fancy-works in feathers, but with much inferior ingenuity, and far less neatness, than is observed among the Mexicans.

The inhabitants on the Oyapoc have the skill of causing parrots to assume colours different to those they originally displayed, by plucking their feathers and rubbing the wounds with the blood of certain frogs; this operation is what in Cayenne is termed *Tapirer un Parroquet*: possibly the secret consists in nothing beyond bathing the spot from whence the feathers were plucked with some acid, indeed the application may be altogether useless, for it is no more wonderful that red or yellow feathers should spring up in lieu of the green that were plucked, than to see grey hairs grow from a wounded part on a horse where black had been before.

Among the singular birds I saw at Para was one the size of a goose, the plumage of which possesses nothing extraordinary, but of which the extremity of the wings is armed by a sharp horny substance, similar to a large thorn, half an inch in length. It has moreover, above its beak, another very slender and flexible horn, the length of the finger: it is called by the Brazilians, from the cry it makes of similar sound, *Cahuitahu*.

The bird called *Trompetero* by the Spaniards of the province of Maynas, is the same with the *Agami* of Para and Cayenne. It is very familiar and possesses nothing extraordinary if the noise it occasionally makes be excepted, which has earned it the title of trumpeter. Those who have conceived the noise made by this bird to be a note or song, are much in error; it proceeds not from the throat, but an organ diametrically opposite.

The celebrated *Contur*, by corruption called *Condor*, of Peru, which I saw in many parts of the mountains of the province of Quito, is likewise found, if reliance is to be placed in my informants, on the banks of the *Marañon*, nay, I have myself seen these birds scudding over a flock which probably the presence of the shepherd restrained them from pouncing upon. It is a generally received opinion that the *Contur* can carry off a kid, and sometimes flies away with a child. It is said the Americans, as a lure, expose the image of a child, formed of a species of clay of very viscous and adherent nature, from which this bird, striking on it as it pitches, with violence, is afterwards unable to disengage itself.

On the 19th of September, nearly four months from my leaving Cuenca, I arrived within sight of Para, called by the Portuguese the Great Para (Para in the Brazilian tongue signifying a river), and landed at a dependency of the college of Jesuits. The provincial of the convent gave us welcome, and the rector detained us a week, procuring us every diversion the country could afford, while apartments in the city were preparing for our reception. On reaching Para on the 27th, we found in readiness for us, a very commodious and richly furnished house, with a garden commanding the sea, and precisely situate as I wished, for the observations I had to make. The governor and captain-general of the province received us in that handsome manner we were led to expect, from the orders he had transmitted for our treatment on the way, to the different commandants of the forts, and from the strong recommendations in our favour, transmitted by him to the various missionaries we had met with.

On reaching Para and bidding adieu to the woods of the Amazons, we fancied ourselves at once transported to Europe. We found here a large city, rectilinear streets, pleasant houses, most of them rebuilt of stone and brick within the last thirty years, and churches of magnificent appearance.

The commerce of Para direct with Lisbon, whence a fleet of merchant ships arrives every-year, enable those of the place whose circumstances are easy, to provide themselves with all the comforts of life. They receive European commodities in exchange for the produce of the country; some little gold-dust brought from the interior of the Brazils, and all the various useful articles as well from the rivers which fall into the Amazons, as from that river itself, such as clove-wood and the black nutmeg, salsaparilla, vanilla, sugar, coffee, and in abundance cocoa, which is the currency of the country, and at the same time its staple.

Probably the latitude of Para had never before been observed on shore, for when I arrived there I was confidently told I was under the line. Fritz's map places this city in lat.  $1^{\circ} 0' S$ . By repeated observations, all of them agreeing, I found it to be  $1^{\circ} 28' S$ . which latitude differs immaterially from that laid down in the Map of Laet, one, not to my knowledge followed by any after-geographers. In the New Portuguese Traveller it is laid down in lat.  $1^{\circ} 40' S$ . As to the longitude I am enabled to fix it with nicety by the eclipse of the moon, which I observed on 1st Nov. 1743, and by two immersions of the first satellite of Jupiter, on the 6th and 29th December, in the same year. In the interval of my procuring corresponding observations in some spot the longitude of which is authenticated, as there were none effected at Paris, I calculated the difference of the two meridians of Para and Paris to be three hours, twenty-four minutes. I omit the observations I made on the variation and dipping of the needle, and on the tides, which are rather irregular at Para.

A more important observation, and which immediately relates to the figure of the earth, the chief object of our voyage, was undertaken by me; I mean the ascertainment of the length of the pendulum to give mean time, or rather the difference of the length of such pendulum at Quito and at Para, one of these cities being on a level with the sea, the other from fourteen to fifteen hundred toises above its level, and both under the equinoctial line; for a degree and a half here is of no consequence. In this experiment I employed a pendulum twenty-eight inches long, more minutely described elsewhere, which continued its oscillations visibly for more than twenty-four hours and with which I had made a great number of experiments at Quito, and on Mount Pichinchi seven hundred and fifty toises above the level of Quito. The result of nine experiments made at Para, the two most distant of which varied but three oscillations in 98,740, I found that my pendulum vibrated from thirty-one to thirty-two times oftener than at Quito, and from fifty to fifty-one oftener than on Pichinchi. From these experiments I concluded that under the equator, two bodies, one of which should weigh one thousand six hundred and the other one thousand pounds, at the surface of the sea, being transported, the one to the height of one thousand four hundred and fifty, the other to a height of two thousand two hundred toises, would each of them lose a pound of their weight, as, or nearly, would be the case if the same experiments were made under the parallels of  $22^{\circ}$  and  $28^{\circ}$  according to the tables of Sir Isaac Newton, or, judging from the actual experiments made under the equator, and in various parts of Europe, under the parallels of  $20^{\circ}$  and  $25^{\circ}$ . The numbers I have cited are merely approximate, and I claim the privilege of making what slight alteration may be necessary, after applying the suitable equations, when I publish the detail of my experiments on the pendulum.

During my sojourn at Para I made several short excursions in a canoe, and availed myself on these occasions to improve my chart. I was however unable to complete it without seeing the true mouth of the Amazons, and tracing its northern bank to Cape North, where it terminates in the sea. This, and other reasons, made me resolve on proceeding from Para to Cayenne, whence I might sail direct to France, on board a King's ship which was there to await me, rather than, as did Mr. Maldonado, profit of the opportunity afforded by the sailing of the Portuguese fleet, which took its departure for Lisbon on the 3d of December 1743. I was in consequence detained at Para till the close of the month, less owing to the representations made to me of the contrary winds prevalent at this season, than to the difficulty I experienced of procuring a complement of rowers; the small pox, which at this time made great ravage here, having caused the country people to abandon the adjacent villages.

It is noticed at Para that this malady is more fatal to the American inhabitants of the missions, newly brought from the woods, and who go naked, than to such of their fraternity as are clothed, and who received life, or have long dwelt with the Portuguese. The former, a sort of amphibious animal, as often in the water as on land, and enured from infancy to the inclemency of the weather, have possibly in consequence a less porous skin than the rest of mankind, one consequently which will oppose more difficulty to the eruptions. The custom, moreover, of these people, of rubbing their skins over with anatto, genipa, and various thick and greasy oils, which in process of time must obstruct the pores, may likewise tend to increase this difficulty; and this conjecture is supported by an additional observation; the negro slaves from Africa, who follow no such practice, are less affected by this malady than the natives. However this may be, the savage newly from the woods who chances to be attacked by this complaint, may in common be regarded as a dead man; but again, how comes that this is not the case where inoculation is resorted to? About fifteen years ago a Carmelite missionary, perceiving all his flock dying about him in succession, and having information from a news-paper of the efficacy of inoculation, which at that time made great noise in Europe, judging wisely, that by resorting to this remedy he might at least render doubtful that death, which without the application was certain; he consequently, after half his catechumens had perished, boldly inoculated the whole of the remainder who had not hitherto been attacked, and not one of the number died. He was followed in the example he set by another missionary on the Black River, and with equal success. The sensible Carmelite reasoned but as others might have done, who, like him, seeing the ravage this disorder occasioned, had heard of the success of the new discovery; yet to him is the honour of its first introduction into this part of America.

After these experiments, so well authenticated, it will be reasonably concluded, that, during the contagion of 1743 which occasioned my detention at Para, all those who had American slaves would resort to a remedy so salutary. I should myself have thought so, had I not been witness to the contrary; at least as long as I stayed at Para it was not yet thought of. It is indeed true, that hitherto the proprietors had not lost half their slaves.

On the 29th December I embarked for Cayenne, in a canoe belonging to the captain-general, with twenty-two oars, stored with every necessary to render the voyage comfortable, and furnished with recommendations for the Franciscan Fathers of Reform, who have their mission on the island Marajo or Joannes, and who on my reaching their abode were instructed to supply me with a recruit of rowers; but the want of communication between Para and Cayenne, and other accidents, prevented my finding a single good practical pilot in four villages, at which I landed in the early part of

January

January 1744. Destitute therefore of this essential, and committed to the little experience and timidity of my American rowers, and the person assigned me to command them (a Portuguese Mestee who spoke their language and who even considered me myself as subject to his orders), I was two months on a voyage which might have been effected in a fortnight, a delay which hindered my being able to observe the comet on shore which at this time made its appearance, and which was lost in the sun's rays before I reached Cayenne.

Some leagues below Para, I crossed the eastern mouth of the Amazons, or the Para branch, separated from the real or western mouth by the large island called by the Portuguese Joannes, but more commonly at Para Marajo, and by the Americans there Marago. This single island occupies almost the whole intervening space between the two mouths of the river. It is of an irregular form, and more than one hundred and fifty leagues in circumference. Instead of this single island, in almost all maps is substituted a multitude of small islands, which might be conceived to have been laid down at hazard were they not copied into the *Flambeau de la Mer*, accompanied by details as false as circumstantial. The Para branch where I crossed, five to six leagues below that city, is upwards of three leagues broad, and thence, as it approaches the sea, continues to increase. I coasted along the island, running towards the north for thirty leagues, as far as its last head-land called Maguari, beyond which I turned westward, keeping in with the coast of the island; which in this direction spreads forty leagues, diverging scarcely at all from the equatorial line. I passed within sight of two great islands which I left on the north, the one called Machiana, the other Caviana, now deserts, but once inhabited by the Arouas, who, though dispersed, have preserved their peculiar tongue. These islands, like the major part of the island of Marajo, are nearly level with the water, swampy, and almost uninhabitable. I left the coast of Marajo where the island bends towards the south, and once again entered into the real bed, or principal channel of the Amazons, opposite the new fort of Macapa, on the western bank of the river, transported by the Portuguese two leagues to the northward of the antient scite. It would be impossible on this part to cross the river in common boats, were not the channel narrowed by small islands, under shelter of which, by selecting favourable seasons, it is crossed with safety. From the last island, however, to Macapa, there is still a distance of two leagues. In this last trip I at length repassed, for the last time, the equinoctial line, towards which I had insensibly progressed from the point of embarkation. At Fort Macapa, or, more properly speaking, on the spot destined for the new fort, on the 18th and 19th January, I observed the latitude to be  $0^{\circ} 3' N$ .

The basement on which the fort is to be raised is two or three toises above high-water-mark. It is only the margin of the river in this part which is covered with trees, the land in the interior is open, the first unwooded country which I had noticed since I had left the Cordillera of Quito. The natives assured me it continues thus towards the north, and that one might travel hence on horse-back to the sources of the Oyapoc, over large open savannahs, on which but a few thinly growing small woods are seen at intervals. From the vicinage of the sources of the Oyapoc, are distinguished, towards the north, the Aprouaga mountains, which also are distinctly perceptible at sea, many leagues from the coast. Taking thus much for granted, it is evident that, departing from Cayenne in lat.  $5^{\circ} 0' N$ . and proceeding southward, two, three, nay perhaps four degrees of the meridian might have been measured without quitting the French territory: in short, if chosen, one might, with permission from Portugal, have extended the line to the parallel of Macapa, that is to say to the equator. This plan would undoubtedly

undoubtedly have been more easy of execution than I conceived it myself when I proposed it to the Academy twelve months before the voyage to Quito was projected. Had my opinion been followed, there is every probability we should have returned years earlier: but it was only by inspection of the country could be determined that what I recommended was practicable.

Between Macapa and the North Cape, at that part where the main channel is most confined by the islands, and especially opposite the wide mouth of the Arauary, which falls into the Amazons from the north, a singular phenomenon is observable in the flow of the tides. For the three days next to a new and full moon, the periods of the highest tides, instead of taking near six hours in running up, the flood rushes to its height in a couple of minutes, not, as may be conceived, in the most tranquil manner. At the distance of a league or two a frightful noise is distinguished, the herald of the Pororoca, which is the name given by the Americans of the district to this tremendous bore. In proportion as it advances, the noise increases, and shortly a promontory of water is seen, from twelve to fifteen feet high, which is succeeded by a second, afterwards another, and sometimes again a fourth, rapidly impelled one after the other, and filling the whole breadth of the channel: this bore advances with prodigious rapidity, and carries away before it whatever opposes resistance. In some places I saw large tracts of land torn from the main, immense trees rooted up, and, in short, devastations of every kind, the effects of its violence. Wherever it passes, the shore is as clean as if it were swept with a broom. Canoes, pirogues, and even larger vessels, have no other means of security from the fury of the bore than by anchoring in great depth of water. I shall not in this place expatiate further on the fact, or its cause, than to indicate the latter by observing that, after attentively remarking the occurrence of this bore in several places, I found it nowhere happen, save where the tide, running in by a narrow channel, encounters in its way a sand-bank, or shallow, which obstructs the progress of the volume of water it brings; in such spots this impetuous and irregular rush of the waves commences, ceasing at a short distance beyond where the channel begins to have greater depth or extension. Something similar is said to happen at the Orcades, north of Scotland, frequently in the Bristol Channel, and occasionally in the mouth of the Garonne, near Bourdeaux, where a bore is called *Le Mascaret*.

The dread experienced by the chief of my Americans, of not being able, in the space of the five days wanting of the high tides of the full moon, to reach the North Cape, from which, however, we were but fifteen leagues distant, and beyond which we should find shelter, occasioned his determining, notwithstanding my entreaties to the contrary, to wait nine whole days on a desert island, until the moon should have some time passed the full. Thence we reached Cape North in less than two days; the day after that of the moon entering its last quarter, when the neap tides occur, we grounded on a mud bank, and, at ebb, the sea retired far from us. The following day, the flood-tide failed of coming up to us; in fine, I remained in the mud bank a whole week, during which my rowers, now without employ, had ample leisure to wander in search of brackish water, wading for the purpose through mud up to the waist. For my part, I amused myself as well as I could in this irksome position, by repeating my observations within sight of Cape North, but, as may be guessed, heartily wearied with remaining so long in latitude  $1^{\circ} 51' N$ . My canoe, stationary on mud hardened by the sun, became a fixed observatory. I found the variation of the compass  $4^{\circ} E$ .; two and a half degrees less *E*. than at Pauxis, and remarked, that on every side I cast my eyes, nothing was to be seen but Mangle-trees, in lieu of those lofty mountains whose points are so circumstantially detailed in the description of the coast which accompanies the charts given in the *Flambeau de*

*de la Mer*, a book translated from all languages, and which, in this part, seems rather calculated to mislead than afford any light to navigators. At length, at the approach of the full moon, the commencement of the same bore so much dreaded set us afloat, but not without much danger, as it drove the canoe before it, and caused it to pitch and labour more in the mud, and with even greater velocity, than I experienced while in the currents of the Pongo in the upper part of the river I had lately navigated, of which, at length, I saw the mouth. Here my chart of the Amazons river finished; I continued, however, to take a plan of the coast, and to make my observations of the latitudes, as far as Cayenne.

At a distance of some leagues west of the bank and under the same parallel, I found a second mouth of the Arauari, now barred by the sands. This mouth, and the deep and broad channel leading to it from the north, with the islands in advance of the cape northward, are the river and bay of Vincent Pinçon. The Portuguese have their reasons for confounding it with the river Oyapoc, the mouth of which, by Cape D'Orange, lies in latitude  $4^{\circ} 15' N.$ ; yet, notwithstanding the article of the treaty of Utrecht confounds the Oyapoc with the river of Pinçon, regarding them as one, they are nevertheless separated by a space of more than fifty leagues. This is a fact that will not be disputed by any who have consulted the old charts of this country, and have read the original authors who wrote on America before the establishment of the Portuguese in Brazil. I found, by observations made on the 23d and 24th of February, that the French fort of Oyapoc stands in latitude  $3^{\circ} 55' N.$ : its site is on the north bank of the river, six leagues up from its mouth.

At length, after a voyage of two months by land, I may say, as well as by sea, (for the coast is so flat between Cape North and the island of Cayenne, that the rudder constantly grounded, or rather, never ceased furrowing the mud, as half a league from shore there was at times no more than a foot of water,) I arrived at Cayenne on the 26th February 1744.

It is well known, that it was in this island M. Richer of this academy, in 1672, made discovery of the inequality of weights under different parallels, and that his experiments were the base of the theories of Mr. Huygens and Sir Isaac Newton respecting the figure of the earth; now, one of the motives which induced me to go to Cayenne, was a prospect of the utility that would result from a repetition of his experiments, as we are in the present day greatly accustomed to them, and enabled to exercise far more precision than formerly. I bring with me a steel rule, which, according to my observations, is precisely of the same length with the simple pendulum at Cayenne; but I look for still greater exactitude, from a comparison of the number of the oscillations of my fixed pendulum at Cayenne with the vibrations at Paris of the same pendulum in equal space of time, when I shall be enabled to make the experiment. This comparison will shew the positive excess of the number of the vibrations of the pendulum at Cayenne over those of the pendulum vibrating seconds at Paris, the length of which is determined by M. Mairan; and as more precision was observed by him in the ascertainment of the length of this pendulum than any by whom he had been preceded, it is fair to presume it is correct. As an established term may also be regarded the length of the pendulum ascertained at Quito, in various manners, and with different instruments, by M. Godin, M. Bouguer, and myself, in which length we severally agree to within less than the hundredth part of a line. But, from whichever point we proceed, the difference between the number of oscillations in the space of twenty-four hours of the same pendulum at Quito, at Para, and at Paris\*, determined by a long series of expe-

\* It is questionable, whether, in lieu of "Paris," should not be read "Cayenne." Tr.

periments at each place, will give the precise length of a pendulum striking seconds on the equinox at the level of the sea, that length the most proper, by common consent, to be received as a universal measure. How desirable, indeed, were such a measure, at least for mathematicians! The diversity of tongues, an inconvenience which yet must endure for many centuries, does it not present sufficient obstacles to the progress of the sciences and the arts, by presenting, in a degree, the requisite communication between different people; but it must be still increased, as one may say, purposely, by an affectation of using, in each country, and at each spot, measures and weights which constantly vary one from the other, while nature, in the pendulum striking seconds under the equator, presents an invariable test, so well adapted to the establishment of a common measure and a common weight in every country; one, too, which calls upon every lover of learning for its adoption?

The object of my first solicitude on reaching Cayenne was, to distribute to various persons seeds of Quinquina, or the Bark-tree, then only eight months old; by means of these, I trusted to repair the loss might be experienced by the failure of the young plants of that tree, the last of which, preserved by me from the heat of the climate and the casualties incident on so long a voyage, had been carried away by a wave which, off Cape D'Orange, threatened our canoe with destruction. The seeds at Cayenne did not prosper; indeed, reflecting on their delicacy, and their inevitable exposure to a high temperature, their prosperity was more than could reasonably be expected. I have not, moreover, received any information respecting the result of those I committed to the management of the Jesuit missionaries on the Upper Oyapoc, the mountainous territory and more temperate climate of whose establishment assimilated, far more than Cayenne, with that of Loxa, whence the seeds were brought.

At Cayenne I observed the latitude to be, as determined by M. Richer,  $5^{\circ} 56' N.$ ; but was at first surprised to find, by four observations of the first satellite of Jupiter, each of them agreeing with the others, that the difference between the meridians at Paris and Cayenne is nearly one degree less than is stated in the *Connaissance des Temps*; but I have since learnt, that M. Richer made no observation of the satellites of Jupiter at Cayenne, and that the longitude of this place was deduced from other observations made by him, in a manner very imperfect and much subject to error. A more enlarged detail on this subject, as well as of my remarks on the tides, and the variation and dipping of the needle, made at the same place, will more appropriately occur at our private meetings.

Noticing that at Cayenne, the mountains of Courou, estimated ten leagues distant, were very distinctly visible, I conceived, that a spot, whence the flash and report of a cannon fired at the fort of Cayenne could be perceived, would be well adapted to the mensuration of the celerity of sound in a climate so different from that of Quito, where we had made a variety of experiments. M. d'Orvilliers, commandant of the fort, not only complied with my request of issuing the requisite orders, but gladly undertook to share the toil with me on the occasion; M. Fresneau, of the engineer corps, undertook, on his part, the hoisting of signals, and ascertaining the celerity of the wind, with several other incidental matters. From five experiments made on two different days, four of which agreed within less than half a second in one hundred and ten, and from the distance, which was concluded to be twenty thousand two hundred and thirty toises by trigonometrical calculations, in which a base twice measured on a level beach of one thousand nine hundred toises was employed, we determined, as the mean result of the celerity of sound, deducting for that of the wind, that it flew at the rate of one hundred and eighty-three and a half toises in a second in this part, whereas its progress

at Quito was only one hundred and seventy-five. The cannon used in these experiments was a twelve pounder.

I took advantage of the angles I had already measured, and the distances ascertained in order to determine geometrically the position of thirty or forty points, as well in the island of Cayenne as on the continent and the coast, among others, of certain rocks, and especially that called the Constable, which serves as a sea-work to ships. I likewise took the angles of elevation of the most conspicuous capes and mountains. Their height, well ascertained, would furnish pilots with a much better dependence than mere reckoning, for appreciating, on catching sight of them, (and that without other trouble than consulting a simple table,) their distance from the coast. It is but too well known how necessary, on approaching the land, an exact knowledge of this is to the mariners; nor is the help which geometry affords to navigation, and which has been hitherto neglected, confined to this instance alone.

On another excursion out of the island, in company with M. d'Orvilliers, we ascended several rivers on the main, and measured their courses; I also frequently took the latitudes, and thus obtained materials which, with the principal points I had before determined, may serve to form an exact map of this colony, which is the more wanting, as there are none at present deserving the name.

During my sojourn at Cayenne, I had the curiosity to try, if the venom of the poisoned arrows, which I had preserved upwards of a year, still retained its activity, and whether sugar be in reality as secure an antidote as it is represented. The experiments for determining these points were made in presence of the governor of the colony, of several officers of the garrison, and of the King's physician. A pullet, slightly wounded by a small arrow, which had been dipped in this poison thirteen months before, and which was blown through a farbacan, lived about half a quarter of an hour; another, pricked in the wing with one of these same arrows, newly dipped in the venom diluted with water and immediately withdrawn, seemed to faint a minute afterwards, was shortly seized with convulsions, and, notwithstanding it was made to swallow sugar while in this state, expired. A third, pricked with the same arrow fresh dipped in the poison, having had the same remedy immediately administered, exhibited no sign of the least inconvenience. I repeated these experiments afterwards at Leyden in presence of the celebrated professors, Mussenbrock, Van Swieten, and Albinus, belonging to the university there, on the 23d January of this year. The poison, the force of which was necessarily diminished by length of time, and by the cold, did not produce its effects in less than five or six minutes; but sugar was given to no purpose in another instance, the fowl which swallowed it living but a short time longer than the other\*. The experiment was not repeated. This poison is an extract made by boiling the juices of certain plants, especially particular lianas. For the venom used by the Ticunas, which is that I tried, and which is held in highest esteem of all the different species known along the river Amazons, I am assured that more than thirty kinds of herbs or roots enter into its composition. These Americans constantly follow the same process in preparing it, that handed down to them by their forefathers, and this with as nice exactitude as with us apothecaries in the composition of the *theriaca Andromachi*, omitting not

\* Should this relation be perfectly correct, it would appear that, although at a high temperature of the air sugar immediately taken on the blood becoming infected with this poison, may be regarded as a remedy and antidote, it loses its efficacy when administered in a cold climate. The temperature, at the time the experiment was made at Cayenne, in July, would be about 80° Fahr., while that at Leyden, in the midst of winter, was possibly below 30°. TRANS.

the smallest ingredient, although it is highly probable the great multiplicity of components is as little requisite in the American poison as in the European antidote.

It will no doubt occasion surprise, that among a people who possess an instrument so certain and so quick of effect, with which to satiate their vengeance, their jealousy or hate, it should be fatal to monkeys or birds alone. It is the more to be admired, as a missionary, ever dreaded, and often held in abhorrence by these neophytes, towards whom his functions admit not of shewing that indulgence they exact, though surrounded by them, lives without fear or mistrust of harm; and what should still farther increase our admiration, these innoxious people are savages, for the major part destitute of the least idea of religion!

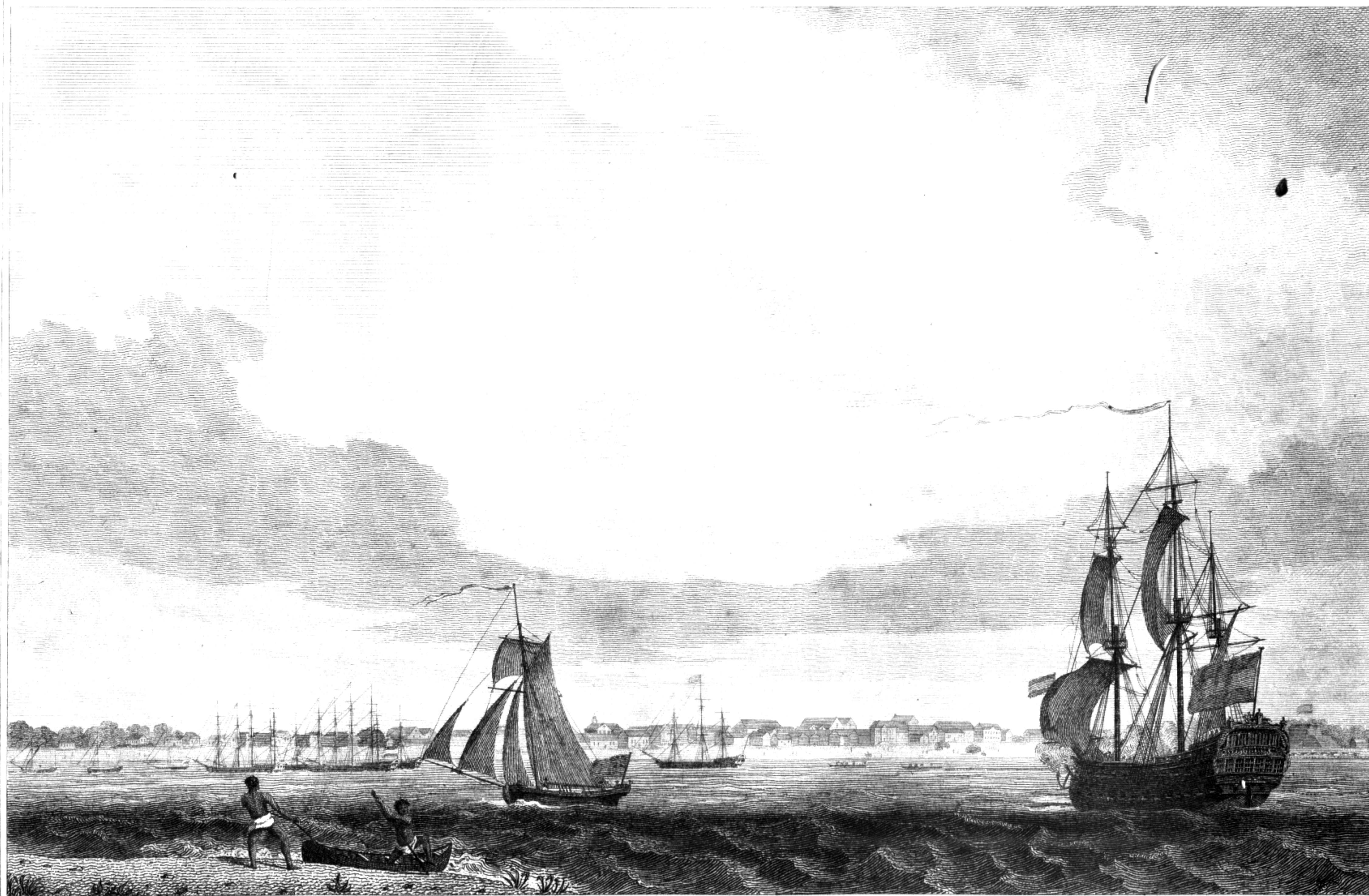
Having learnt, while at Cayenne, the marvellous and even novel fact, of the multiplication of Polypi, discovered by M. Trembley, and since confirmed by the experiments of M. Reaumur, M. de Jussieu, and a variety of other naturalists, I made some trials on sea-polypi of large size, which, off this coast, are very common. My first experiments were not attended with success, and an illness with which I was seized, prevented my repeating them as I intended.

Five months' stay at Cayenne, without seeing the King's ship arrive, which was expected, and without receiving any news from France, a pleasure of which I had been deprived for five years, made more impression upon me than nine years' travelling and fatigue. I was attacked with a lowness of spirits and the jaundice, from which I found greater relief than from all medicine, in the extremely polite answer I received from M. Mauricius, governor of the Dutch colony of Surinam, in which he invited me to his house at Surinam, and offered me a passage to Holland, engaging to furnish me with a passport in case of rupture between France and the States General. I lost not a moment; and, after a stay of six months at Cayenne, I left it in a convalescent state on the 22d August 1744, in a King's barge, furnished me by M. Orvilliers, with a serjeant belonging to the garrison, who had command only over the rowers. In consequence, this trip was much shorter than that from Para to Cayenne. I stopped on the way no longer than was necessary to complete my crew of Americans. The missionary father at Senamary procured me a sufficient number of hands, notwithstanding the rumour of a contagious distemper existing at Surinam, which, though false, had spread to a distance a general panic among the natives. Deducting stoppages, now voluntary, and now constrained, I was somewhat more than sixty hours on my voyage from Cayenne to the river of Surinam, which I entered the 27th.

On the 28th, I ascended the river the height of five leagues, which brought me to Paramaribo, the capital of the Dutch colony of Surinam, the governor of which, in his conduct, surpassed the expectations I had formed from his obliging letters. I observed the latitude, which I found to be  $5^{\circ} 49' N.$ ; and I likewise made several other observations during the five days I stopped: on the 3d September, I embarked on board a merchant ship bound to Amsterdam.

The 29th, we dispensed with shewing my passport to an English cruiser, owing to the bad weather; this, however, would probably have met with little respect, as, at first sight, the cruiser saluted us with shot, to make us send our boat on board, notwithstanding we were under Dutch colours.

On the 6th November, at the entrance of the channel, we were accosted by a cruiser from St. Maloes for a similar purpose, but in a less discourteous manner, for, coming within hail, the captain was satisfied, on the assurance I gave him, mentioning who I was, of whence we were, that he was merely losing time with us. On the 16th, at the entrance of the Texel, we took on board a coasting pilot to conduct us into port;



*Engraved by John Byrne.*

*View of Paramaribo.*

*London. Published by Longman, Hurst, Rees, Orme & Brown, Paternoster Row. Nov. 1. 1812.*

but, forced to keep aloof from the land we sought, we kept wandering about at random, constantly foundering, and accompanied with constant fogs, for fifteen of the shortest days of the year, surrounded all the time by shoals and shallows. One night we distinguished the Scheveling lights, seldom seen with impunity; at length we distinguished the shore of Vlieland, while our pilots, by their reckoning, imagined us within sight of the Texel. The 30th November, in the evening, I landed at Amsterdam, where, and at the Hague, I waited two months for the passports requisite to cross the Low Countries. I am indebted for those from England to Mr. Trevor, the minister of that nation at the Hague, who, without hesitation, granted them to the entreaty of M. l'Abbé de la Ville, the French ambassador; for those from the minister of the Queen of Hungary, I am obliged to Lord Bentinck. To conclude;—on the 23d February 1745, I arrived in Paris, after a lapse of ten years from my departure thence.

LETTER of M. DE LA CONDAMINE, written in 1773, to M. \*\*\*\*; giving an Account of the Fate of those Astronomers who participated in the requisite Operations for the Measurement of the Earth, begun in 1735.

You feel interested, Sir, in the labours of the Academy of Sciences undertaken for the measurement of the earth, and are anxious to learn the fate of all who were employed on this great work abroad since the year 1735; well might I answer you in the words of Virgil,—

Apparent rari nantes in gurgite vasto.

But few remain buoyed on the extensive waste.

We sailed from Rochelle in the month of May 1735, provided with passports from His Catholic Majesty Philip V., for the purpose of measuring the degrees next the equator in his South American dominions. Our party consisted of three members of the Academy, M. Godin, M. Bouguer, and myself; of M. Joseph de Jussieu, M. D. regent of the Faculty at Paris, and brother of the two other academicians, admitted likewise, during his absence, a member of the academy; M. Seniergues, a surgeon; M. Verguin, engineer in the navy; M. de Morainville, draughtsman for the department of Natural History; M. Couplet, a nephew of the academician of that name; M. Godin des Odonais, who will form the chief subject of this letter; and M. Hugo, a watch and mathematical instrument-maker: at Carthage, in America, we were, moreover, joined by two lieutenants of Spanish ships, appointed by the court of Madrid to accompany us during our observations.

The following year M. de Maupertuis, nominated for the measurement of the degrees of the meridian under the Arctic Circle, embarked at Rouen, accompanied by Messrs. Clairaut, Camus, and Monnier the younger, academicians, M. l'Abbé Outhier, M. Celsius, a Swedish astronomer, and others.

In 1751, M. l'Abbé de la Caille, an academician, set sail for the Cape of Good Hope, on which expedition the measurement of two degrees of the meridian was one of his lightest labours.

Of the five travellers to the Arctic Circle, only M. Monnier at present survives. The Abbé de la Caille, who undertook alone the voyage to the Cape, and whose health appeared proof against every attack, on his return to Paris died, a martyr to his astro-

nomical zeal, in 1762; and M. l'Abbé Chappe d'Auteroche, an academician, the junior of the last mentioned, whom he took for his model, experienced in California, in 1769, a similar destiny.

Of my companions on the voyage to the equator, M. Couplet, the most robust and one of the youngest, was carried off, three days after his arrival at Quito, by a putrid fever. M. Seniergues, our surgeon, was killed in a popular commotion at Cuenca. M. Bouguer in 1758 died of an abscess of the liver. M. Godin, after entering the Spanish service, in which he was appointed to the direction of the Academy of Naval Guards at Cadiz, younger than M. Bouguer, survived the latter but two years. M. de Morainville, who remained in the province of Quito, met with death by falling from the scantling of a church, of which he was the architect, at Cicalpa, in the vicinage of Riobomba. Of M. Hugo, who married at Quito, I have received no intelligence these fifteen years back. I do not enumerate how many of our servants, white as well as of colour, who died in the course of our travels; two of them of a violent death.

Commander Don Jorge Juan, the superior of the two Spanish officers attached to our party, made a post-captain on his return to Spain, and afterwards commandant of the Naval Guards, commodore, and ambassador to Morocco, though younger than most of us, died lately of apoplexy at Madrid. Dr. Joseph de Jussieu, long detained by the Audencia Real of Quito for the benefit of his professional assistance, and afterwards by the Viceroy of Lima, returned to Paris two years back: as formerly the famous M. Mabillon, he has lost his memory, but, not so fortunate as he, to M. de Jussieu it has never returned; for this last gentleman and myself I know not whether in justice we can both together be reckoned equivalent to one living being. A deafness, which I began to experience in America, is become excessive; and for these last five years I have been deprived of all external feeling in my lower members, the vitality of which I am rendered sensible of only by the pains I experience in them on change of weather. Thus, of eleven travellers in the Torrid Zone, exclusive of servants, the only ones deserving to be reckoned alive, are M. Verguin, naval engineer at Toulon; Don Antonio de Ulloa, commodore in the Spanish navy, and late governor of Louisiana (nor indeed are either of these exempt from infirmities); and M. Godin des Odonais, who, after thirty-eight years' absence, has lately reached Paris, and who has furnished me with matter calculated to afford you entertainment. I received from him, in the month of August last, in consequence of entreaty that he would favour me with a narrative of the travels of his wife, a lady known to me from her infancy, and of whose adventures I had heard but a confused account, the letter of which I inclose you a transcript: by it you will see what miracles may be effected by resolution and perseverance. Callous indeed must be that heart which can remain unmoved at the recital of the shocking misfortunes of an amiable woman brought up with tenderness, who, by a series of events not to be avoided by human foresight, found herself in the depth of impervious forests, the haunts of ferocious beasts and dangerous reptiles, and there exposed to all the horrors incident on thirst, on hunger, and fatigue; and who, after beholding seven persons who accompanied her sink under the weight of such distress, and expire by her side, wandered, an insulate being, the only one surviving for several days through this desert; finally, who, by providence, bordering on a miracle, escaped all the perils of her critical situation. You will at the same time notice the munificence of His Portuguese Majesty towards M. Godin, and the liberal demeanor of the officers charged with the execution of his orders.

Upon representation made to him by M. Godin, the beneficent minister (M. le Duc de Vrilliere), whose department embraces the Academies, has recently obtained for

him from His Majesty a pension, well earned by his zeal and toil during our operations, and by the long exile he endured from a country to which he was so anxious to return.

LETTER to M. DE LA CONDAMINE from M. GODIN DES ODONAIS.

SIR,

St. Amand, Berry, 28th July 1773.

You require of me a narrative of the travels of my spouse along the Amazons river, the same route I followed after you. The rumours which have reached your ears of the dangers to which she was exposed, and which she alone of eight persons surmounted, augment your curiosity. I had resolved never to speak of them again, so painful to me was the recollection of them; but, as an old companion in your travels, a distinction which I prize, I cannot refuse in turn for the interest you take in our welfare, and the marks of friendship you have shewn me, to give you the satisfaction you require.

We landed at Rochelle on the 26th of June last, after a passage from Cayenne, effected in sixty-five days, having left this last place on the 21st of April. On our arrival, I made enquiries after you, and learnt with much grief that four or five months had elapsed since you were no more. While yet in tears, my wife and myself were delighted on wiping them away, to find that at Rochelle the literary journals, and what regards the Academy, are far less read than the news which relates to commerce. Accept, Sir, for yourself and Mad. de la Condamine our heartiest congratulations.

You will recollect that the last time I had the honour of seeing you in 1742, previous to your leaving Quito, I told you that I reckoned on taking the same road that you were about to do, along the river of Amazons, as much owing to the wish I had of knowing this way, as to insure for my wife the most commodious mode of travelling, by saving her a long journey over-land, through a mountainous country, in which the only conveyance is on mules. You took the pains in the course of your voyage to give information at the Spanish and Portuguese missions established on its banks, that one of your companions would follow you; and, though several years elapsed from the period of your leaving them, this had not been forgotten. My wife was exceedingly solicitous of seeing France, but her repeated pregnancies, for several years after your departure, prevented my consent to her being exposed to the fatigues incident on so long a voyage. Towards the close of 1748 I received intelligence of the death of my father; and my presence thence becoming indispensable for the arrangement of my family affairs, I resolved on repairing to Cayenne by myself down the river; and planning every thing on the way to enable my wife to follow the same road with comfort, I departed in March 1749 from the Quito, leaving Mad. Godin at that time pregnant. I arrived at Cayenne in April following, and immediately wrote to M. Rouillé, then minister of the navy, intreating him to procure me passports and recommendations to the court of Portugal, to enable me to ascend the Amazons, for the purpose of proceeding to my family, and bringing it back with me by the same channel. Any one but you, Sir, might be surprised at my undertaking thus lightly a voyage of fifteen hundred leagues, for the mere purpose of preparing accommodations for a second: but you will know that travels in that part of the world are undertaken with much less concern than in Europe; and by those I had made during twelve years for reconnoitring the ground for the meridian of Quito, for fixing signals on the loftiest mountains, in going to and returning from Carthage, had made me perfectly a veteran. I availed myself of the opportunity afforded by the conveyance which took my letters to forward several objects pertaining to natural history for the King's garden; among others, seed of the *sarsaparilla*, and of the

five species of the Butua ; with these also a grammar, printed at Lima, of the language of the Incas, which I designed as a present for M. de Buffon, from whom I received no answer. By that with which I was honoured from M. Rouillé, I learnt that His Majesty had been pleased to direct that the governor and intendant of Cayenne should both furnish me with recommendations to the government of Para. Upon this, I wrote to you, Sir, and you were so obliging as to solicit passports for me. You moreover favoured me with a letter of recommendation from Commander La Cerda, minister of Portugal to France, addressed to the governor of Para, with a letter from M. l'Abbé de la Ville, which informed you that my passports had been expedited, and forwarded to Para. I enquired respecting them of the governor of that place, who expressed his entire ignorance of the fact. I repeated my letters to M. Rouillé, who then was no longer in the ministry. Since that time I renewed my letters every year, four, five, and even six times, for the purpose of obtaining my passports, and constantly without effect. Many of my letters were lost, or intercepted, during the war, of which I the less doubt from your having ceased to receive any, notwithstanding I regularly continued my correspondence. At length, hearing casually that M. le Comte d'Herouville was in the confidence of M. de Choiseul, I ventured, in 1765, to write to the former of these noblemen, although I had not the honour of being known to him, explaining in a few words who I was, and entreating him to intercede with the Duc de Choiseul for the transmission of my passports. To the kindness of this nobleman alone can I attribute the success that followed this step ; for, the tenth month from the date of my letter to M. le Comte de Herouville, I saw a decked galliot arrive at Cayenne, equipped at Para by order of the King of Portugal, manned with thirty oars, and commanded by a captain of the garrison of Para, instructed to bring me to Para, thence transport me up the river as high as the first Spanish settlement, to wait there till I returned with my family, and ultimately re-conduct me to Cayenne, all at the special charge of His Most Faithful Majesty ; a liberality truly loyal, and such as is little common among sovereigns. We left Cayenne at the close of November 1765, in order to take in property belonging to me at the fort of Oyapoc, where I resided. Here I fell sick, and even dangerously so. M. de Rebello, the captain, a knight of the order of Christ, was so complaisant as to wait for me six weeks ; finding at length that I still continued too ill to venture on the voyage, and, fearful of abusing the patience of this officer, I besought him to continue his route, and that he would permit me to put some one on board, to whom I might entrust my letters, and who might fill my place in taking care of my family on its return. I cast my eyes on Tristan D'Oreafaval, a person whom I had long known, and in whom I had confidence. The packet I entrusted to him contained the orders of the Father-general of the Jesuits to the Provincial of Quito, and the Superior of the missions of Maynas, for furnishing the canoes and equipage necessary for the voyage of my spouse. The instructions I gave to Tristan were simply to deliver those letters to the Superior, resident at La Laguna, the capital of the Spanish missions of Maynas, whom I entreated to forward my letters to Riobamba, in order that my wife might receive information of the vessel dispatched by His Majesty of Portugal, at the recommendation of the King of France, to bring her to Cayenne. Tristan was further directed to wait an answer from Riobamba at Laguna. He sailed from Oyapoc on the 24th January 1766, and arrived at Loreto, the first establishment belonging to Spain on ascending the river, in the month of July or August of the same year. Loreto is a mission established below that of Pevas since the period of your coming down the river in 1743 ; nay, both this and the Portuguese mission of Savatinga, above that of St. Pablo, which was before their last settlement up the river, have been founded since my passage descending in 1749. The better to comprehend

what I now describe, it may be well you should cast your eyes over the chart made by you of the course of the Amazons, or that of the province of Quito, inserted in your *Historical Journal of the Voyage to the Equator*. The Portuguese officer, M. de Rebello, after landing Tristan at Loreto, returned to Savatinga, in conformity to the orders he had received of waiting there until Madame Godin should arrive; and Tristan, in lieu of repairing to Laguna, the capital of the Spanish missions, and there delivering his letters to the Superior, meeting with a missionary Jesuit, called Father Yesquen, who was on his return to Quito, by an unpardonable oversight, which had every appearance of a bad intent, delivered to his care the packet of letters. This was addressed to Laguna, some days' journey from the spot where Tristan was: but in lieu of attending to this circumstance, he sent it five hundred leagues beyond, to the other side of the Cordilleras, and himself remained in the Portuguese missions, carrying on trade.

You will please to notice that, besides different articles which I had entrusted him to dispose of for me, I had furnished him in addition with more than sufficient to defray all expence in travelling through the Spanish missions.

Spite, however, of his bad conduct, a vague rumour obtained circulation through the province of Quito, and reached the ears of Madame Godin, not only of letters addressed to her being on their way in the custody of a Jesuit, but also, that in the uppermost missions of Portugal a vessel equipped by His Most Faithful Majesty had arrived to transport her to Cayenne. Her brother, a monk of the order of Augustins, in conjunction with Father Terol, a provincial Dominican, exerted themselves much to induce the Provincial of the Jesuits to obtain these letters. The Jesuit who received them at length made his appearance, and stated he had delivered them to another; this other, being interrogated, replied, he had committed them to a third: but, notwithstanding the most diligent perquisition, the letters never were found. With respect to the arrival of the vessel, opinions differed, some giving credit to, while others disputed the fact. To venture on a voyage of such length without any certainty, and preparatory thereto to arrange all family affairs, and part with her furniture, was what Madame Godin could not, without much risk and imprudence, resolve upon: she determined on the commendable medium of dispatching a faithful negro, who departed with some Americans, but who, in consequence of obstacles, was obliged to return. His mistress sent him forward a second time with new instructions, and means of surmounting the difficulties which had prevented his progress before. More fortunate on this second trip, the negro reached Loreto, saw and communicated with Tristan, and, returning, acquainted Madame Godin of the reality of the report, and that Tristan was at Loreto. Upon this she determined on her journey, sold part of her furniture, but left the rest, as well as her house at Riobamba, a garden and estate at Guaslen, and another property of ours between Galté and Maguazo, to her brother-in-law. Some idea of the length of time which elapsed since the month of September 1766, at which epoch the letters were delivered to the Jesuit, may be formed by computing how long the journey of the reverend father to Quito will have occupied, how much time would be lost in seeking the letters, in enquiry into the fact of the rumour, in hesitating about what was best to do, and by the two journeys of the negro to Loreto and back to Riobamba, by the sale also of our effects, and the requisite preparations for a voyage of such length; in fact, these prevented her setting out from Riobamba, forty leagues south of Quito, before the 1st of October 1769.

The arrival of the Portuguese vessel was rumoured at Guayaquil, and even as far as the shore of the South Sea; for M. R., who reported himself to be a French physician, coming from Upper Peru, and on his way to Panama and Porto Bello, in view of passing thence

thence to Santo Domingo, Martinico, or, at any rate, to the Havannah, and from that place to Europe, touching at Point Saint Helena, learnt there that a lady of Riobamba was on the point of setting out for the Amazons river, and embarking thence in a vessel equipped by the order of His Portuguese Majesty, to take her to Cayenne. This engaged him to change his route, and ascending the Guayaquil river, he proceeded to Riobamba to entreat Madame Godin to grant him a passage, undertaking in return to watch over her health, and shew her every attention. At first she answered, that she had no authority to grant his request; but M. R. applying to her two brothers, they represented to her so urgently that she might have need of the assistance of a physician on so long a voyage, that she at length consented to his accompanying her. Her two brothers, who likewise were setting out for Europe, hesitated not an instant to avail themselves of the opportunity which now offered of hastening their arrival, the one at Rome, whither he was called by business relative to his order, the other in Spain, where his private affairs required his presence. The latter took with him a son about nine or ten years of age, whom he wished to educate in France. M. de Grandmaison, my father-in-law, went on before to obtain every possible accommodation for his daughter on the road, to the point of embarkation beyond the great Cordillera. He at first met with obstacles from the president and captain-general of the province of Quito; for you, Sir, are aware that the passage by the Amazons is forbidden by the Spanish court; but these difficulties were soon overcome. On my return from Carthagena, whither I had been dispatched on matters relative to our company in 1740, I brought back with me a passport from the viceroy of Santa Fé, Don Sebastian de Esclava, authorising our taking whatever road we pleased; and in consequence of the production of this, the Spanish governor of the province of Maynas and Omaguas, informed of the approach of Madame Godin, politely sent to meet her a canoe stored with refreshments, such as fruit, milk, &c. which reached her a little distance from the town of Omaguas; but to what misfortunes, what a horrible situation was she not exposed before that happy moment! She left her residence of Riobamba with her escort on the 1st of October 1769; and with these she reached Canelos, the spot at which they were to embark, situate on the little river Bobonasa, which empties itself into the Pastaca, as that last does into the Amazons. M. de Grandmaison, who preceded them a month on the way, found the village of Canelos well inhabited, and immediately embarked, continuing his journey, to prepare every thing necessary for the transport of his daughter at each stage of her way. As he knew that she was accompanied by her brothers, a physician, her negro, and three female mulattoes or Americans, he proceeded on to the Portuguese missions. In the interval, however, between his journey and the arrival of my wife, the small pox, an European import, more fatal to the Americans in this part than the plague, which is fortunately here unknown, is to the people of Levant, had caused the village of Canelos to be utterly abandoned by its population. They had seen those first attacked by this distemper irremediably carried off, and had in consequence dispersed among the woods, where each had his own hut, serving as a country-retreat. On her departure my wife was escorted by thirty-one American natives to carry herself and baggage. You know, Sir, that this road, the same pursued by M. de Maldonado, is impracticable even for mules; that those capable, effect the passage on foot, but that others are carried. The Americans who escorted Madame Godin, who were paid in advance according to the bad custom in this country, a custom founded on mistrust, at times but too well founded, scarcely reached Canelos before they retraced their steps, either from dread of the air being infected, or from apprehension

of being obliged to embark, a matter obnoxious in extreme to individuals who had perhaps never seen a canoe in their lives but at a distance. Nay such excuses are possibly superfluous, for you well know how often we are abandoned by them on our mountains, on no pretence whatever. What under such circumstances was to be done? Had my wife been able to return, yet the desire of reaching the vessel waiting her, together with her anxiety to rejoin a husband from whom she had been parted twenty years, were incentives powerful enough to make her, in the peculiar circumstances in which she was placed, brave even greater obstacles.

In the village only two Indians remained free from the contagion; these had no boat, but they engaged to construct one and pilot it to the mission of Andoas, about twelve days' journey below, descending the river Bobonaza, a distance of from one hundred and forty to one hundred and fifty leagues; she paid them beforehand; the canoe being finished, they all departed from Canelos. After navigating the river two days, on the succeeding morning the pilots absconded; the unfortunate party embarked without any one to steer the boat, and passed the day without accident. The next day at noon, they discovered a canoe in a small port adjoining a leaf-built hut, in which was a native recovering from illness, who consented to pilot them. On the third day of his voyage, while stooping over to recover the hat of Mr. K., which had fallen into the water, the poor man fell overboard, and, not having sufficient strength to reach the shore, was drowned. Behold the canoe, again without a steersman, abandoned to individuals perfectly ignorant of managing it; in consequence it was shortly overset, which obliged the party to land, and build themselves a hut. They were now but from five to six days journey from Andoas. Mr. R. proposed to repair thither, and set off with another Frenchman of the party, and the faithful negro belonging to Madame Godin, taking especial care to carry his effects with him. I since blamed my wife for not having dispatched one of her brothers to accompany Mr. R., but found that neither of them, after the accident which had befallen the canoe, were inclined to trust themselves on the water again, without a proper pilot; Mr. R. moreover promised that within a fortnight a canoe should be forwarded to them with a proper complement of natives. The fortnight expired, and even five and twenty days, when, giving over all hopes, they constructed a raft on which they ventured themselves, with their provisions and property. The raft, badly framed, struck against the branch of a sunken tree, and overset, all their effects perishing in the waves, and the whole party being plunged into the water. Thanks to the little breadth of the river at this place no one was drowned, Madame Godin being happily saved, after twice sinking, by her brothers. Placed now in a situation still more distressing than before, they collectively resolved on tracing the course of the river along its banks. How difficult of effect this enterprise, you, Sir, are well aware, who know how thickly the banks of the rivers are beset with trees, underwood, herbage and lianas, and that it is often necessary to cut one's way. They returned to their hut, took what provisions they had left behind, and began their journey. By keeping along the river's side they found its sinuosities greatly lengthened their way, to avoid which inconvenience they penetrated the wood, and in a few days they lost themselves. Wearied with so many days' march in midst of woods, incommodious even for those accustomed to them, their feet torn by thorns and brambles, their provisions exhausted, and dying with thirst, they were fain to subsist on a few seed, wild fruit, and the palm cabbage. At length, oppressed with hunger and thirst, with lassitude and loss of strength, they seated themselves on the ground without the power of rising, and, waiting thus the approach of death, in three or four days expired one after the other. Madame Godin, stretched on the ground by the side of the corpses

of her brothers and other companions, stupified, delirious, and tormented with choaking thirst, at length assumed resolution and strength enough to drag herself along in search of the salvation which providentially awaited her. Such was her deplorable condition she was without shoes, and her clothes all torn to rags: she cut the shoes off her brothers' feet, and fastened the soles on her own. It was about the period between the 25th and 30th of December 1769 that this unfortunate party (at least seven of the number of them) perished in this miserable manner; the date I gather by what I learn from the only survivor, who related that it was nine days after she quitted the scene of the wretched catastrophe described before she reached the banks of the Bobonafa. Doubtless this interval must have appeared to her of great length, and how a female so delicately educated and in such a state of want and exhaustion, could support her distress, though but half the time, appears most wonderful. She assured me that she was ten days alone in the wood, two, awaiting death by the side of her brothers, the other eight wandering at random. The remembrance of the shocking spectacle she witnessed, the horror incident on her solitude and the darkness of night in a desert, the perpetual apprehension of death, which every instant served but to augment, had such effect on her spirits as to cause her hair to turn grey. On the second day's march, the distance necessarily inconsiderable, she found water, and the succeeding day some wild fruit and fresh eggs, of what bird she knew not, but which, by her description, I conjecture to have been a species of partridge. These with the greatest difficulty was she enabled to swallow, the oesophagus, owing to the want of aliment, having become so much parched and straitened; but these and other food she accidentally met with, sufficed to support her skeleton frame. At length, and not before it was indispensable, arrived the succour designed for her by providence.

Were it told in a romance that a female of delicate habit, accustomed to all the comforts of life, had been precipitated into a river; that, after being withdrawn when on the point of drowning, this female, the eighth of a party, had penetrated into unknown and pathless woods, and travelled in them for weeks, not knowing whither she directed her steps; that, enduring hunger, thirst, and fatigue to very exhaustion, she should have seen her two brothers, far more robust than her, a nephew yet a youth, three young women her servants, and a young man, the domestic left by the physician who had gone on before, all expire by her side, and she yet survive; that, after remaining by their corpses two whole days and nights, in a country abounding in tigers and numbers of dangerous serpents, without once seeing any of these animals or reptiles, she should afterwards have strength to rise, and continue her way, covered but with tatters, through the same pathless wood for eight days together till she reached the banks of the Bobonafa, the author would be charged with inconsistency; but the historian should paint facts to his reader, and this is nothing but the truth. The verity of this marvellous tale is attested by original letters in my hands, from many missionaries on the Amazons who felt an interest in this event, and by other proofs as will be seen in the sequel of this narrative. These misfortunes would have been avoided altogether but for the infidelity of Tristan, but for his neglect, in lieu of stopping at Loreto, of delivering as instructed, in person, my letters to the Superior at Laguna; with this precaution on his part my wife would, as her father had done, have found the village of Canelos peopled with natives, and a canoe ready to convey her forward.

To return, it was on the eighth or ninth day, according to Madame Godin, after leaving the dreadful scene of the death of her companions, that she found herself on the banks of the Bobonafa. At day-break she heard a noise at about two hundred paces from her. Her first emotions, which were those of terror, occasioned her to  
strike

strike into the wood; but, after a moment's reflection, satisfied that nothing worse could possibly befall her, than to continue in her present state, and that alarm was therefore childish, she proceeded to the bank of the river, and perceived two native Americans launching a boat into the stream. It is the custom of these people, on their landing to pass the night, to draw their canoe either wholly, or partially on shore, as a security against accidents, for should it be left afloat, and the fastening tackle break, it would be carried away by the current, and leave the sleepers on shore in a truly helpless state. The natives, perceiving Madame Godin, advanced towards her, on which she conjured them to transport her to Andoas: they had been driven by the contagion prevalent at Canelos to withdraw with their wives to a hut they had at a distance, and were then going to Andoas. They received my wife on board with kindness truly affectionate, shewed every attention to her wants, and conducted her to that village. Here she might have stopped some days to rest herself and recruit her strength, (and well may it be conceived she had great need of rest,) but, indignant at the conduct of the missionary at whose mercy she was left, and with whom for that reason she was obliged to dissemble, she resolved on making no stay at Andoas, nor would even have stopped a single night had it been possible to be avoided.

A great revolution in the missions of Spanish America dependent upon Lima, Quito, Charcas, and Paraguay, founded and administered to by the Jesuits, for from one to two centuries, had recently taken place. An unexpected order from the court of Madrid expelled them from all their colleges and missions; they had in consequence been every where arrested, put on board, and transported to the pope's dominions. This event, however, had occasioned no more disturbance than would have done the change of a village-rector. In lieu of them, the secular clergy were substituted, of which class was the individual who officiated as missionary at Andoas, an individual whose name I wish to banish from my memory. Madame Godin, stripped of almost every thing, not knowing otherwise how to testify her gratitude to the two Americans who had saved her life, took from her neck two chains of gold, such as are usually worn in this country, of about four ounces weight, and gave one to each of them, whose admiration at the richness of the present equalled that they would have experienced had the heavens opened before them; but the missionary, in her very presence, took possession of the chains, and gave the poor Americans in lieu about three or four yards of coarse cotton, such as is manufactured in the country, and called Tucuyo. Conduct thus infamous exasperated my wife to such a degree that she instantly demanded a canoe and men, and the next day set out for Laguna. A female American at Andoas made a cotton petticoat for her, which she sent to pay for immediately on reaching Laguna, and which she preserves with care, with the soles of the shoes of her brothers, converted by her into sandals;—mournful tokens, rendered dear to me as they are to her herself!

While my wife was yet wandering in the woods, her faithful negro, with a party of Americans from Andoas, ascended the river. M. R. thinking more of his own affairs than forwarding the boat which should recall his benefactors to life, scarcely reached Andoas before he departed with his companion and baggage for Omaguas. The negro, on reaching the hut where he left his mistress and her brothers, traced them through the woods, in company with his companions, until he came to the spot where their corpses laid, already putrid and uncognizable. At sight of these, persuaded that no one had escaped death, the negro and his companions returned to the hut, collected what had been left there, and again reached at Andoas before my wife arrived there. The negro thence repaired to M. R. at Omaguas, and delivered to him the property of his

mistress. This man was not ignorant that M. Grandmaison, who had reached Loreto, awaited there with impatience the arrival of his children. A letter in my possession even proves that my father-in-law, informed that the negro Joachim was at Omaguas, advised Tristan to repair thither and bring him forward; but neither Tristan nor M. R. thought fit to satisfy him, and so far from complying with his request, M. R., of his own accord, sent the negro back to Quito, keeping the property he had brought back with him.

You know, Sir, that Laguna is not situate on the Amazons, but some leagues up the Guallaga, a tributary of the former river. Joachim dismissed by M. R. did not in course proceed to Laguna in search of his mistress, whom he imagined dead, but returned to Quito, and thus have we lost his services. You will certainly be far from guessing the excuse of M. R. for sending away a faithful servant who was so much wanted by us. "I was afraid," said he in answer to this enquiry, "that he would murder me." What, replied I, could have given birth to a suspicion of such intention in a man whose zeal and fidelity were so well known to you, and with whom you so long had travelled? If you apprehended he might dislike you from imputing the death of his mistress to your negligence, what prevented your sending him forward to M. Grandmaison, who exacted this of you, and who was so nigh at hand? At least what hindered your putting him in prison? You lodged with the governor of Omaguas, who would readily have complied, had you made him such a request.

In the meantime Madame Godin, with the canoe and crew from Andoas, had reached Laguna, where they were received with the greatest politeness by Dr. Romero, the new chief of the missions, who, by his kind treatment during six weeks that she remained with him, did much towards re-establishing her health, but too much impaired, and making her forget her misfortunes. The first care of this respectable character was to forward an express to the governor of Omaguas, to inform him of the arrival of Madame Godin, and the languid state of her health. Upon this intelligence M. R. could do no less, having promised to render her his services, than hasten to join her, bringing with him four silver dishes, a silver saucepan, a velvet petticoat, one of Persiana, and one of taffety, some linen, and other trifles, belonging to her brothers as well as herself; adding, that all the rest were rotten, forgetting that bracelets, snuff-boxes, and rosaries of gold, and ear-rings set with emeralds, were not subject to rottenness, any more than various other effects. "Had you," said Madame Godin; "had you brought back my negro, I should have learnt from him what he had done with my property found in the hut. But of whom, respecting it, am I now to inquire? Go your ways, Sir; it is impossible that I can ever forget that, to you, I owe all my misfortunes and all my losses; manage henceforward as you may, I am determined you shall make no part of my company." My wife had but too much reason on her side, but the intercessions of M. Romero, to whom she could refuse nothing, and who represented to her that, if she abandoned M. R., his condition would be deplorable, at length overcame her repugnance, and induced her to consent he should yet continue with her.

When Madame Godin was somewhat recovered, M. Romero wrote to M. Grandmaison, informing him that she was out of danger, and requesting him to dispatch Tristan to accompany her to the Portuguese vessel. He likewise wrote to the governor, acquainting him that he had represented to Madame Godin, whose courage and piety he could never sufficiently admire, that she was yet merely at the beginning of a long and tedious voyage; and that, though she had already travelled upwards of four hundred leagues, she had yet four or five times that distance to pass before she reached Cayenne; that, but just relieved from the perils of death, she was about to incur fresh danger.

danger; concluding with offering, if she chose to return, to cause her to be escorted back in perfect security to her residence of Riobamba; to these he added, that Madame Godin replied, "She was surprised at his proposals; that the Almighty had preserved her when alone amid perils in which all her former companions had perished; that the first of her wishes was to rejoin her husband; that for this purpose she had begun her journey; and, were she to cease to prosecute her intention, that she should esteem herself guilty of counteracting the views of Providence, and render useless the assistance she had received from her two dear Americans and their wives, as well as all the kindness for which she was indebted to him, and for which God alone could recompense them." My wife was ever dear to me, but sentiments like these add veneration to tenderness. Trifan failing to arrive when expected, M. Romero, wearied with waiting for him in vain, equipped a canoe, and gave directions for the transport of Madame Godin, without halting any where, to the Portuguese vessel. Then it was that the governor of Omaguas, knowing of her coming, and that she was to stop no where by the way, dispatched a canoe to meet her, loaded with refreshments.

The Portuguese commander, M. de Rebello, hearing of her approach, fitted out a pirogue, commanded by two of his men and stored with provisions, to meet her, which they did at the village of Pevas. This officer, the better to fulfil the orders of his master, with great labour, and by doubling the number of oars, worked his vessel up the river as high as the mission of Loreto, where he received her on board. I learn from her, that from that instant till she reached Oyapok, throughout a course of nearly a thousand leagues, she wanted for nothing to render her comfortable, not even the nicest delicacies, and such as could not be expected in the country; wine and liquors which she never uses, fish, game, &c. were supplied by two canoes which preceded the galliot. The governor of Para, moreover, had sent orders to the chief part of the stages at which they had to halt, with additional refreshments.

I forgot to mention, that the sufferings of my wife were not at an end, and that one of her thumbs was in a very bad state, owing to its being wounded by thorns in the wood, which had not yet been extricated, and which had not only occasioned an abscess, but had injured the tendon and even the bone itself. It was proposed to take off the thumb, but, by dint of care and fermentations, she had only the pain to undergo occasioned by the extraction of two splinters at San Pablo, but she entirely lost the use of the tendon. The galliot continued its course to the fortress of Curupa about sixty leagues above Para. M. de Martel, knight of the order of Christ, and major of the garrison of Para, arrived there the succeeding day, by order of the governor, to take command of the galliot, and conduct Madame Godin to Fort Oyapok. A little beyond the mouth of the river, at a spot off the coast where the currents are very violent, he lost one of his anchors, and as it would have been imprudent to venture with only one, he sent a boat to Oyapok, to seek assistance, which was immediately forwarded. Hearing by this means of the approach of Madame Godin, I left Oyapok on board a galliot belonging to me, in view of meeting her; and, on the fourth day of my departure, fell in with her vessel opposite to Mayacare. On board this vessel, after twenty years' absence, and a long endurance on either side of alarms and misfortunes, I again met with a cherished wife, whom I had almost given over every hope of seeing again. In her embraces I forgot the loss of the fruits of our union, nay, I even congratulated myself on their premature death, as it saved them from the dreadful fate which befel their uncle in the wood of Canelos beneath their mother's eye, who certainly could never have survived the fight. We anchored at Oyapok the 22d July 1770. I found in M. Murtel an officer as much distinguished by his acquirements as by his prepossessing exterior,

exterior. He has acquaintance with most of the languages of Europe, is an excellent latinist, and well calculated to shine on a more extensive scene than Para. He is a descendant of the illustrious French family of similar name. I had the pleasure of his company for a fortnight at Oyapok, whither M. de Fiedmont, governor of Cayenne, whom the commandant of Oyapok, advised of his arrival by express, immediately dispatched in a boat with refreshments. We caused the Portuguese vessel to undergo a repair, which it much wanted, and refitted it with sails to enable it to stem the currents on its return. The commandant of Oyapok gave M. Martel, moreover, a coast-pilot, to accompany him to the frontiers. I offered to go so far as his consort on board my galliot, but he would suffer me to proceed no farther than Cape D'Orange. I took my leave of him with those feelings which the polite attention and noble behaviour of that officer and his generous nation were so well calculated to inspire in me, as well as my wife, a conduct on the part of either, which I was led to expect from what I had individually experienced on my former voyage.

I should previously have told you that, when I descended the Amazons in 1749, with no other recommendation to the notice of the Portuguese than arose from the remembrance of the intimation afforded by you in 1743, that one of the companions of your travels would follow the same way, I was received in all the Portuguese settlements, by the missionaries and commandants of the forts, with the utmost courtesy. On passing San Pablo I purchased a canoe, in which I descended the river to Fort Curupa, whence I wrote to the governor of Grand Para, M. Francis Mendoza Gorjaô, to acquaint him of my arrival, and beg permission of sailing from Curupa to Cayenne, whither I intended to repair direct. He favoured me with so polite an answer, that I made no hesitation of quitting my intended cruise and taking a longer, in order to thank him and pay him my respects. He received me with open arms, and insisted on my making his house and table my own during a week that I stopped with him; nor would he suffer me to depart before he set off himself for St. Louis de Marinhau, whither he was about to go on his circuit. After his departure, I remounted the river to Curupa with my canoe, escorted by one of greater dimensions, sent with me by the commandant of that fort on my voyage to Para, a city which, as you have justly remarked, stands on a large river, considered, but improperly, the right arm of the Amazons, as the river of Para merely communicates with the Amazons by a channel hollowed by the tides, and called Tagipuru. At Curupa I found waiting for me, by order of the governor of Para, a large pirogue of fourteen oars, commanded by a serjeant of the garrison, and destined to carry me to Cayenne, whither I repaired by Macapa, coasting along the left of the Amazons to its mouth, without, like you, making the tour of the great island of Joanes, or Marajo. After similar courtesies, unprovoked by express recommendations, what had I not to expect, seeing His most Faithful Majesty had condescended to issue precise orders to expedite a vessel to the very frontiers of his dominions, for the purpose of receiving my family on board, and transporting it to Cayenne?

To resume my narrative.—After taking leave of M. de Martel off Cape D'Orange with those reciprocal salutes common with sailors, I returned to Oyapok, and thence to Cayenne.

Here I was engaged in a law-suit. Tristan demanded of me the wages I had promised him of sixty livres per month. I offered to pay him for eighteen months, the utmost time the voyage could have required, had he strictly followed his instructions. The sentence pronounced by the superior council of Cayenne condemned him to render me an account of from seven to eight thousand franks, the value of effects I had committed to his care, deducting one thousand and eighty for the eighteen months' salary I had offered

offered him ; but the wretch, after dealing treacherously with me as he had done ; after causing the death of eight persons, including the American who was drowned, and all the misfortunes which befel my wife ; in short, after dissipating the whole of the effects I had entrusted with him, proved insolvent ; and, for my part, I judged it unnecessary to augment the losses I had already sustained by having to support him in prison.

I conceive, Sir, that I have now complied to the full with your request. The narrative I have given, by recalling the mournful scenes I have depicted, has cost me infinite anguish. The law-suit with Tristan, and the illness of my wife on reaching Cayenne, a consequence but too natural of the sufferings she had undergone, did not admit of my venturing to expose her earlier than the present year (1773), to so long a voyage by sea. At present she is, with her father, in the midst of my family, by whom they have been tenderly received. M. de Grandmaison had originally no intention of proceeding to France, but merely meant, by his voyage, to see his daughter safe on board the Portuguese vessel ; but finding old age creep on apace, and penetrated with the most lively grief at the intelligence of the sad death of his children, he abandoned all, and embarked with her, trusting the care of his property to his other son-in-law, M. Savula, who resides at Riobamba. For my wife, however solicitous all about her to enliven her spirits, she is constantly subject to melancholy, her horrible misfortunes being ever present to her imagination. How much did it cost me to obtain from her the relations requisite for the judges in the course of my lawsuit ! I can even readily conceive that, from delicacy, she has abstained from entering into many details, the remembrance of which she is anxious to lose, and which, known, could but add to the pain I feel. Nay she was even anxious that I should not prosecute Tristan, compassionating even that wretch ; thus following the gentle impulse of a heart inspired with the purest benevolence, and the genuine principles of religion !

## AN ABRIDGED RELATION

OF A

*VOYAGE TO PERU,*

Undertaken by Gentlemen of the Royal Academy of Sciences, to measure the Degrees of the Meridian near the Equator, whereby to infer the Figure of the Earth. — By M. BOUGUER.

TRANSLATED FROM THE FRENCH.

**T**HE Academy has been so diligent in publishing every thing it has done to determine the magnitude and figure of the earth, that I am warranted to suppose the assembly perfectly instructed with the state of the question \*. The experiments already made to ascertain the weight of bodies which are found to diminish therein in proportion as they draw towards the equator; the various operations undertaken in France to measure the extent of the degrees of both latitude and longitude; every thing, indeed, concurs to satisfy us, that the earth is not completely spherical; but these very experiments and operations are known to lead to opposite conclusions as to its real deviation from this form. Geometry and physics seemed here so much in contradiction with each other, that none were sufficiently aware of the means of reconciling them; it was a controversy to which the learned themselves gave rise, and not one of these disputes deemed purely speculative, and of no importance in practice: even the academy itself were undecided; nor were its doubts entirely laid at rest until some voyages had been accomplished to the pole and the equator. The errors to which all our operations are liable, are not to be corrected by comparing, only, degrees of latitude within a small extent; their inequality is not manifest enough to be depended on: it is a very different thing to compare the degrees measured in regions very remote, as is the pole and the equator, from each other. The difference produced from the sum of the whole of the small differences of these measured degrees, must have, necessarily, by reason of its magnitude, disengaged us from those errors not to be avoided by calculating the difference of one degree from another separately; and the consequences drawn from the mode of the first calculation, had acquired a certainty the latter could not give.

If towards the perfecting navigation it had been conceived necessary to ascertain the magnitude of the degrees of it, it was not of less consequence to be acquainted with its exact figure. They were not able to distinguish whether the accidents, which happen even now, too frequently at sea, ought or not to be imputed to the negligence of pilots, not scrupulously enough attentive to the precepts of their art, or whether the evil were not to be traced to a higher source,—to the imperfectness of the art itself, by the maxims of it being chiefly founded upon the spherical figure of the earth; of which it ought necessarily to be assured, as well as of the circumstance, if suggested to it, of the imperceptible irregularity of the figure. Setting aside every other advantage which may

\* One part of this discourse was publicly read in the Assembly of the Royal Academy of Sciences, 14th November 1744.

have presented itself in our way, we could not fail to propose to ourselves a variety of verifications on different subjects; to labour at a description, and to correct the maps of the countries through which we had to pass; to make observations on the loadstone, examine the weight of the air, its degrees of condensation, elasticity, refraction, and many other things, as occasion should offer. Nor even, perhaps, would all these necessities, duly considered, and taken in the aggregate, be estimated of less importance, than what we regarded as the principal object of our mission. The project of the voyage of the academicians to the polar circle was subsequent to ours; it has been a much shorter one, and the public has already happily reaped the fruits of it; at least to the extent possible from the nature of the thing, until they shall form to themselves a common result, the last object of every voyage undertaken. With regard to ourselves, whose destination was to the south, and to encounter difficulties not to be imagined, we had to make our way to the equator; and it was clear enough we had no business beyond it, since the degree of the meridian could undergo but little change on the other side; and if we had proceeded far enough, we should have found them equal to those of France. It cannot be doubted that there is some sort of conformity between the two hemispheres of the north and south: if the degrees enlarge on one side, they must, of consequence, do the same on the other, even when not exactly subject to the same law. It behoved us, then, to be stationed at the equator, to determine, as this was necessary, the inequality, whether in excess, or lack, when at the greatest. M. Le Comte de Maurepas, whose love for the sciences urged him to every thing that might contribute to their advancement, lost sight of none of the advantages to be derived from our voyage, that could reconcile himself to the undertaking; he smoothed all our difficulties; indeed, we have felt at the extremities of the globe, that we had been travelling under his auspices. We were three, M. Godin, M. de la Condamine, and myself, all academicians, not reckoning M. de Jussieu, regent doctor of the faculty of medicine at Paris, brother of the two academicians of the same name, who joined us after our departure. This gentleman's employment was to attend, as he did with exemplary care, to the natural history of the countries through which we travelled; and in this he was to be assisted by M. Senergues, surgeon, who, it was conceived, might also sometimes render much assistance to us. We had need of the aid of many persons, to draw, to examine the calculations, or to explore the country with us: for which purposes, they appointed M. Verguin, engineer of the marines, and Messrs. Couplet, Desodonnais, de Morainville, and Hugot, the last a clock-maker, who was to have the charge and care of our instruments.

M. Godin had more pretensions than one to be placed at the head of our company; beside being my elder in years, he also had the merit of proposing the voyage. For my own part, I had no intention of having any thing to do with the enterprize, when every thing being prepared and the period for its departure approaching, several of the mathematicians or astronomers on whom much reliance were placed, found themselves in a situation, from perhaps their private affairs attaching them to Paris, or other causes, to be unable to give efficacy to their zeal, which determined me to conquer the repugnance which the weak state of my health had always given me to sea-voyages. In the meantime, though our absence, from many particular incidents to which I was not the least accessory, became very long and tedious, I shall not, I am sure, repent of having rashly come to the resolution I did, if I have the gratification of knowing that my individual efforts have been of public utility.

It must be remembered, we were not limited to measure the extent of a single degree of the meridian; the arch we ascertained contained more than three; so that our labour

labour in this single place has been three times longer, and more painful, than that experienced in Lapland, which has received such well-earned applause. On the other hand, if we have had to overcome many difficulties, it is certain many of them were inseparable from such undertakings; when it was necessary to cross the ocean to a country so distant, as to render all communication with Europe exceedingly difficult, and when the success of the mission depended on such a number of circumstances, and the concurrence of so many persons; the moral difficulties are then multiplied, and unite themselves with local and physical ones. The first have been greater than can be described, and the extent of the latter may be conceived when you are informed, that the vast height of the mountains, which in Europe has commonly contributed to accelerate these operations, were to us the greatest hindrance; either from the circumstance of being stationed so high as to be enveloped in clouds, or having our signals carried away by the tempests, and being frequently reduced to the necessity of having regard to nothing but our own safety. We have sometimes been obliged to purchase, for a month and a half's patience, a single quarter of an hour of fine weather; and in one of these stations we have been longer detained, than we should have been toiling through a whole meridian in Europe. We were working, too, in a country, to which even its inhabitants themselves were strangers; and obliged continually to penetrate into deserts, where no paths but those made by wild beasts were to be discovered.

We could not, without a passport, enter the territories under the domination of Spain, which are ordinarily interdicted to every description of strangers to all places beyond the seas. We were even in want of a special permission. His Catholic Majesty did not simply permit our operations to be made in whatever place we might choose in Peru, but declared himself the protector of them, by making known his pleasure in this regard to his viceroys and to his audience at Quito; and, at the same time, nominated two marine officers lieutenants of ships, Don George Juan, commandant, D'Aliaga, of the order of St. John of Jerusalem, and Don Antonio de Ulloa, to assist in our work. We found them at Carthagena, in America, where they were arrived some months before us, directly from Cadiz. It was a flattering circumstance for the two united nations, to be able to turn their thoughts towards the attempt of examining the figure of the earth, while the fortunate success of their arms astonished Europe, and turned its attention to very different objects. In the meantime, if we had the good fortune to succeed, the advantages to be derived from our voyage would be common to every nation, all would equally be benefited thereby. It is fit Kings should not limit the benefits arising from their glorious undertakings to one reign or one age; by generously extending them to the whole human race, they show themselves kings or as fathers of every people: this trait of goodness and wisdom is conspicuous in every thing commanded by the cherished sovereign to whom we are subjects.

I shall divide this discourse under different heads, in order the better to describe a country we have had too many occasions to become well acquainted with. Our French travellers have penetrated but a little way into it, and the idea they have formed to themselves of the country, have ordinarily been founded upon the relation of persons who have never been induced to a strict examination of what they beheld. Hence it occurred to me, a somewhat circumstantial detail would afford pleasure, until I can give a complete relation of the whole journey. Beside this detail may throw some light upon the operations of the measuring of the globe, of which I have given in an account.

## PART I.

## DESCRIPTION OF THE PART OF PERU COMPREHENDED BETWEEN THE SEA AND THE GREAT CHAIN OF MOUNTAINS KNOWN UNDER THE NAME OF CORDELIER.

WE embarked in a King's ship in the road of Rochelle the 16th of May 1735, and made our way very successfully to Saint Domingo, after having first put into Martinique, where we remained a few days. We made a variety of observations in both these islands, some of which are noticed in the memoirs of the Academy. We measured the height of the different mountains we had occasion to ascend, to satisfy our minds in certain researches we proposed to ourselves; we tried our ability, without being sensible of it, to scale other mountains incomparably higher; those which form the famous chain known under the name of Cordelier, and of which but little is known than the name in Europe. We made a considerable stay at Saint Domingo, and left it the 30th of October for Carthagena; from whence we made our way to Porto Bello, and having crossed the isthmus, we embarked at Panama on the South Sea, and on the 9th of March 1736, we saluted, for the first time, the coast of Peru, and anchored in the road of Manta, where we proposed to ourselves to harbour. It is already known M. Condamine and myself separated here from the rest of our companions, by reason that we believed we might make some use of our time in this part of the coast, on which the heavy rains had already ceased to fall, and we were assured it would be some time yet ere they abated to the southward, and that the way to Quito would be impassable until the month of June.

We saw M. Godin, with the rest of the company, set sail for Guayaquil, and had no cause to regret the resolution we had taken to remain behind; our stay purchased us a perfect acquaintance with this coast, which being the part jutting most to the west of South America, required to be ascertained with particular exactness. We examined the length of the pendulum under the equator, and I was myself much privately taken up with astronomical refractions.

The day after M. Godin's departure, we went to the village of Monte Christi, situated at the foot of the mountain of that name, famed in these seas, and known to all navigators coming from a distant country; it is the residence of the antient inhabitants of Manta, who, to shelter themselves from the insults of pirates, have removed from the coast where they formerly resided. We were lodged in the King's house\*, which should be considered as a Town-house†, though, like the rest of the cabins, only constructed of bamboos; it was raised upon piles about seven or eight feet in height; we ascended it by a stair formed of two bamboos of large size, in which they had contrived notches to receive one's feet. On Thursday the 15th, in the morning, the Indians came to visit us, preceded by their Alcades or magistrates, carrying in their hands their wands, as distinctive marks of their authority; they presented to us some fruits, and announced to us that they had orders, by letters from Don Joseph de Olabés y Gamoroa, commandant of Puerto Viejo, to shew us the same attention as to himself. We chose a more commodious station as an observatory, at about a third of a league from the village; we there established ourselves under a roof, raised by our good

\* La Casa Real.

† Hotel de Ville.

friends the Indians with much facility, considering the extreme simplicity of the architecture common to this country. M. Condamine and myself made an unsuccessful attempt to put in practice the method I suggested in the memoirs of the Academy for 1735, to ascertain the precise moment of the equinox. The sun was visible in the evening, but not in the morning; this circumstance, joined to other accidents, deprived us of the correspondent observations we were in want of. We were prevented by a cloudy sky from observing some eclipses of the satellites of Jupiter; but it permitted us to notice the end of the eclipse of the moon, of the 26th of March 1736, in the evening; which, from the circumstance of its fixing the situation of all this coast, the most westerly of South America, is become an extremely important observation\*. We learn from it that Monte Christi, whose latitude is  $1^{\circ} 3' S.$  is fourteen leagues to the west of the meridian of Panama or Porto Bello, and the cape St. Lorenzo, which is near four leagues more to the west, is about fifty-four minutes of a degree to the west of the same meridian.

I was, with respect to myself, more fortunate in the observations I made at the mouth of the river De Jama, north of the Cape Passado, at  $0^{\circ} 9'$  south of the equator. We did not go to this place until we had first made our visit to Don Joseph de Olabes at Puerto Viejo, by whom we were very well received. Puerto Viejo is one of the oldest Spanish settlements in Peru. It yet has the title of city, which it merits as little as that of port, being a very inland town, and the river that passes it very inconsiderable. We found notwithstanding a great number of Spaniards here, but for the most part very poor; they have wax and cotton, and cultivate both the cocoa and tobacco, for exportation, but the badness of their roads and a defective navigation depresses their commerce; it is even a sort of hazard that throws an opportunity in their way for the sale of their commodities.

We noticed in this, as in several other places we passed, some very pretty houses, under roofs thatched with straw or the leaves of the palm-tree, containing a great number of chambers, and which to their other embellishments, if we may use the term, were added galleries and balconies. The bamboo serves for beams, as well as joists and boards. These bamboos of which they make such a variety of uses, are as thick as a man's leg; when they form boards of them, they split them down the whole length on one side, then open them by breaking the diaphragm within, and spread them flat; thus prepared, these boards are as long as ours, and sometimes fifteen inches in breadth; and of these they make their floors, their partitions, and window-frames; all the parts of the building are united by the roots of trees, or cords made of the bark or rind, so that not a particle of iron enters into the composition or construction of the edifice; and nothing can be more accommodating to the natural indisposition of the people of this country to labour; who, were they inclined to give themselves a little

\* The moon, although entirely shadowed, was always visible, her emerfion only was observable.

H.	M.	S.	
7	26	40	—First moment of emerfion.
7	34	31	—Aristarcus appeared.
7	47	00	—Plato, ditto.
7	52	17	—Tycho began to emerge.
7	53	23	—Tycho totally emerged.
7	57	47	—Manilius emerged.
8	06	24	—Mare Serenitatis, out of shadow entirely.
8	13	25	—Mare Oris, out of shadow entirely.
8	19	17	—Petavius emerged.
8	20	18	—Langrenus, ditto.
8	23	27	—Eclipse ends.

more trouble, might find more solid and durable materials in their forests. It is true, it would cost them more to erect their habitations in a better and more careful manner; besides, generally they are in want of nothing else than a shelter from the extreme heat of the sun, or the frequent heavy rains. Walk or move as gently as you can in these houses, the whole edifice shakes. Accidents by fire, too, are much to be apprehended, but as their furniture partakes of the simplicity of the building, the damage can never be very considerable.

From Puerto Viejo we went to Charapoto, another Spanish settlement, where there are yet some Spaniards to be met with. From this place we proceeded to Canow, and afterwards to the north of the Cape Passado. On our way to Canow we passed by the bay of Caracas, a port, the juttings of which are formed by nature. This bay, supposed to have some resemblance to that of the same name in the North Sea, has a very narrow entrance, but is nevertheless very spacious; and there is much wood in the neighbourhood of it, proper for the construction of ships; and the Spaniards, who founded a city near the entrance of it, the ruins of which are yet evident, continue here from time to time, establishing timber-yards.

In all the places not absolutely desert, we found and had a resource in bananas, and some other fruits, milk, eggs, and poultry. In other places we subsisted upon rice, and what provisions we carried with us; the bananas, and maize-cakes, which had no other fault than being exceedingly dry, served us instead of bread.

The Indians provided us with horses, of which we had much need; and they taught us to profit of the flux and reflux of the tide, by directing our way upon the flat shores, where no roads were found made over the heights of the coast. Horses multiply very much in this country, and there has been a great number of them since the Spaniards have transported them from Europe; their goodness does not arise from the care taken of them, as is the case in our islands; they suffer them always to run out even during the night, and never shoe them; they are sometimes so lean and starved as to excite the compassion of a cavalier, but notwithstanding this, they are excellent and truly serviceable. We availed ourselves of another sort of conveyance, when we had occasion to keep to the coast. We found some pirogues, a species of canoe or boat, formed of a single trunk of a tree, in which they will venture very far from shore, and even dare to double the cape, when the sea is not greatly agitated.

All our propositions in our different coastings were designed to make us as much acquainted as possible with the country: but while we had in view the perfecting of geography, we did not neglect other observations that presented themselves; to multiply which it was that, being in the southern hemisphere, we conceived the design of coasting now and then our way northward. I sought principally for a commodious situation to observe the astronomical refractions near the horizon; and I at length found one at the mouth of the river Jama, where I fixed myself for near fifteen days. The observations I made there, joined to those already accomplished at St. Domingo, furnished me with a term of comparison which turned out exceedingly useful to me when I got to Quito; I noticed there the refractions to be less, and that, contrary to all received opinion till that time, they diminished in proportion as we were above the level of the sea.

While I was thus occupied below, I beheld, the 13th of April 1736, a very uncommon sight, and of which there have been but few examples: I saw two suns very distinct, successively set; they were in contact, and one exactly over the other. I do not think I ought to attribute this phenomenon to the reflection of the surface of the sea, which had sent back the second image: for in this case the two images would have

had a contrary motion, instead of descending with an equal one. The lower sun, whose light was not quite so brilliant, but whose edge was not less determined than the upper one, was when I observed it already divided by the horizon, and did not even form a complete half-circle. It set, and was immediately followed by the other, which did not appear to me subject to any other refraction than what I had already observed, and for some days following continued to observe.

Most part of the places we have mentioned are famous in the antient history of Peru. Manta, at the time of the Incas, was the metropolis of all this country, then sunk in the grossest idolatry: the divinity they adored was competent to do them neither good nor harm; it was an emerald of the size of an ostrich egg, to which they had consecrated a temple, and attached a college of priests to have charge of its worship. Every emerald of an ordinary bigness partook of a small portion of its divinity, were reputed her daughters, and were often brought from a great distance to be deposited in the same place, that they might have the same homage rendered to them as the goddess their mother: this last was lost on the arrival of the Spaniards; probably the Indians carried it away and concealed it. It is in vain they have sought for the mines from whence these stones are taken; nor have they been more successful in the perquisitions made in another neighbouring country, further north upon the same coast, the name of which augurs a better prospect. They pretend to be acquainted in this province, which is that of the Emerald, with the Little Mountain, in which are the richest of these mines; it is not farther than five leagues from the sea, and is upon the south bank of the river of the same name as the province. But, besides the impenetrable nature of the country, almost throughout caused by the thick woods, the Indians are wise enough not to be very aiding in these sort of researches: they are sensible, no doubt, should they succeed, they would be opening a career of labour painful to excess, which themselves alone would bear the weight, and with but little portion of the profits.

It is very probable this coast, notwithstanding the relation of the first travellers who have gone over it to the contrary, have never been much peopled. The villages are at ten or twelve leagues distance from each other, and in many places twice that; and there are none of them situated at a short distance from the sea. We may hazard an opinion that this has always been the same: immense forests are not situations calculated for the subsistence of a numerous population. It is a contradiction, of which some writers, otherwise very able, have not been sensible; who have believed that the Gauls in the time of the Romans were more numerous than the French are now, although all the country, almost, was then covered with wood. We are aware, besides, that we cannot, in the remote countries of which we are now speaking, consider forests as a new production: commerce alone, by the abundance it draws sometimes from without, may furnish the means of subsistence to a large population: but we are not left ignorant that there has ever been but little communication between the coast and the rest of the continent; besides, as we shall not hesitate long to prove, the inspection of these places confirms this to be very probable.

We must not seek in these forests for our oaks or elms, and other trees commonly found in our woods. There are, however, to be noticed some which the Spaniards, from some vague relation, have taken for the French, or holm-oak. We see there also oranges, citrons, and olives: these trees have been carried there by the Spaniards, for which reason they cannot, any more than figs and pomegranates, be expected to be seen in America, but in cultivated spots. We may even observe of the

olive, that this climate is rather too warm for it, and that it would turn to better account beyond the other tropic, in the districts of Chili, the most neighbouring upon the torrid zone. We noticed a great number of shrubs and plants we have not in Europe, and others which grow better in the former than in the latter country, as is evidenced by their growth. Acacias, brooms, ferns of numerous species; the prickly Cuiges, the Opuntia, the different species of aloes, not to mention the Mangliers, which even grow in the sea, and multiply to a prodigious degree by means of their branches, which so intertwine as in their turn to become trunks and roots. In all these forests nothing is to be found but heavy wood, excepting only a few plants, converted by the goodness of the soil into trees. Most of the species, for instance, of the Ferule grows to a great height in Europe, principally in Pouille: but it attains to a larger size in the hot regions of Peru, and it yields a white wood, which, though in weight four or five times lighter than the lightest fir, is capable notwithstanding of as great power. Nothing can be found more proper to make rafts, of which the use is sometimes so necessary, travelling over these deserts\*.

It is only necessary to penetrate into the thickest places of the forests to find cedars, of which there are two or three species; cotton trees; and the various sorts of ebony, or hard wood; Guyaco, and many other kinds of wood, esteemed for their fragrance or colour, and for the fine polish they will receive. The trees known under the name of Maria are distinguishable by the whiteness of their bark, and their great height and straightness; these are the only trees in Peru they can convert into masts for ships; they are very flexible, nor are they so excessively heavy as almost all the others are. I must not omit noticing the palm-trees, of which I have myself reckoned more than ten or twelve species, yet there are many more. Considered in every manner, this is a very singular tree: its branches, or rather leaves, being at the very top of its trunk, gives it, notwithstanding its height, the form rather of a plant than a tree. It is observed in the hot countries of the torrid zone, trees spread their roots near the surface of the soil: but the roots of many of the palms are altogether out of the ground, and the base of the trunk is observed to lift itself up as the tree advances in age; it will sometimes rise to six or seven feet, and the roots which divide form beneath a kind of trench or pyramid, in the hollow of which it is possible to shelter oneself.

Near the sea these forests scarcely ever exceed the growth of a coppice; in proportion as you advance into land, the trees visibly increase in size, and gradually in height, and at seven or eight leagues from the coast, and not at a shorter distance, they attain to their utmost elevation. This *maximum* bears itself up; it comprises a very considerable tract, but at the same time of unequal breadth, varying according to situations; for if we continue to advance, we find the trees lose much in their height, either because the quality of the land is no more the same, or because of the elevation of the soil as it approaches the Cordelier, and its not having the same depth of good earth; the spaces between the trees are filled with a prodigious quantity of plants and parasite shrubs; some of these entwine the trunks and branches; others fall vertically in a straight line, resembling cords attached to their heights; the remaining voids are taken up by bamboos of all growths, some of them twenty or thirty feet high, and the most part of the larger ones thorny. When I say that all the trees are encumbered with plants and shrubs, I mean to say, generally; we must, I believe, except the Acomas, which are considerably larger here than in our islands, and which, like even some other trees, have appeared to me exempt from moss. They owe, apparently, this dis-

\* The Spaniards name this wood, Wood of Balsa.

tion to the lacteous moisture of their bark, which is prejudicial to many parasite plants.

We acknowledge, on entering these woods, the truth of the observation already made by other travellers, that if the birds of America exceed ours in beauty of plumage, ours have the advantage, infinitely, in variety and sweetness of note. Instead of song, nothing is heard almost throughout the forest, but a discordant stunning noise. The clamour of the paroquets, which are seen here in great tribes, is particularly disturbing. These birds do not frequent the sea-side; to find them, we must penetrate for some leagues into the country: I have frequently eat of the small green ones, and found them very good, though their flesh may be considered rather hard. The apes, also, choose to take themselves far from the coast, and generally follow the course of the rivers and brooks. Here, also, you see the Toucan, called by the natives the Preacher, although he never opens his mouth. He bears no resemblance to any other bird, from the monstrous size of his beak, which is almost as large as his whole body. Pigeons are very common, and very good, so are also ducks, principally those which the Spaniards name Palos Reales, and which are decorated with a crest.\* The Galinasso is found in many places here; it is a singular species of the Coori, to the flesh of which they attribute different properties; but it is rarely made use of, by reason of its stinking smell. It differs from ours by its size, in which it is larger, and the head of it, instead of being covered with feathers, has simply a black skin upon it, of an helmet form.

The number of mischievous terrestrial animals is very great here, particularly remote from the sea and the thick recesses of the forests, and where the trees are at their loftiest growth. The lion we see there, is not one; he has much more relation with the wolf; and does not attack man. But the tigers are as large there, and savage, as those of Africa: of which, there has been at different times most terrible proofs. When, in 1740, I returned from Quito towards the sea, taking a northerly direction to measure the absolute height of the mountains which had served for our meridian, I passed by Nigonas, which is, as it were, the centre of the Province of Emeralds, and saw there many persons who had been lamed by these terrible animals: ten or twelve Indians had been torn to pieces by them two or three years before. I proceeded farther, and fixed myself in a little island formed by the meeting of the two rivers of the Emeralds and Inca. In this island we imagined ourselves perfectly secure from any attack; but, lo! the first night the tigers swam over to dispute our provisions with us, and carried off a part of them; and we were under the necessity every night of making a large fire as a protection. It is a blessing these animals, like all those offensive by the ferocity of their nature, are not teeming. Tigers are but few in Peru; but it requires but one or two of them to desolate a whole country.

The Indians, who never cross the deserts without being armed with a lance and hanger, assemble themselves at certain times to hunt these animals, and never fail, when accidents have happened to impress them with the necessity of doing so. Much also is to be apprehended from serpents, which are here very common, and of many dangerous species; among them the rattle-snake, which will not, like the most part of others, turn aside from man. Lizards are found here as large as your arm, but harmless. We will now notice those divers species of animals, of which some are considered amphibious. The Iguana has a thorny crest on his head and along his back: his form, he is so meagre and shrivelled, is truly hideous. I suspect he has the means, when he swims, of blowing himself up into a large volume, which gives him lightness, and induces a belief that he walks upon the water as upon land. They eat of this animal,

and find his flesh excellent ; as also of a species of wild boar, which has a head not so long as ours, and something like a navel upon his back. I believe this last is peculiar to the woods of America ; but the Taton or Armadillo is common to both continents : it is remarkable for the distinct scales or armour with which its body, head, tail, and legs, are separately covered.

The most part of the insects to be found with us are also there, but ordinarily of larger size, and sometimes so big, that Europeans consider them monstrous. Earth worms, for instance, though entirely resembling what are common to us, are as long as one's arm, and an inch in circumference. Some of their spiders are covered with hair, and as large as a pigeon's egg. We see there different species of the pismire often considerably larger than ours, and some of them venomous. Scorpions are also very common, but their sting is not of much consequence ; the distress of it generally ends with a slight fever : it has, however, happened to an acquaintance of mine, beside feeling this inconvenience, to have been afflicted with a swelling of the tongue, so as to render speaking painful. I have frequently seen a little dog stung, and it only occasioned him at first to start. The stings were made chiefly in the tender part of the belly not covered with hair : the little dog did not appear at all indisposed. But there is nothing in these forests that distresses you so much as the mosquitos and maringouins ; by reason they cause an uneasiness, or rather a plague, which is never ceasing, and it is very difficult to guard oneself against it. The first are a species of flies scarcely perceptible, and affect you like red-hot iron ; the second are of two different species, the smallest differing little from our gnats. We are acquainted in Europe with the nature of the sting of the latter, but the poison of the maringouins is, nevertheless, more active : it causes great blisters, chiefly upon those lately from Europe, whose blood is apparently more fluid. It cannot be described with what obstinacy they seem to attack these strangers. The air is frequently darkened by their multitude, and we are obliged to be in incessant motion to defend ourselves from them ; they conquer by making their way through every little hole they find in our clothes, and it is impossible to rest at night for them, unless under a tent made purposely to guard us against them. This tent has curtains of calico, and is formed like a tomb ; they fasten it, when they sleep in the woods, by its two extremities or four angles to some trees ; and it is a piece of furniture so absolutely necessary, that the poorest Indian is always provided with, and never journeys without it. As the maringouins strive to avoid both wind and sun, the open places they will never voluntarily infest ; and many places are found entirely free of them. The inconvenience is not so great in hamlets and all cleared spots.

It will not be considered extraordinary that the country I have described should be very hot, since it is upon a level with the sea, and placed in the midst of the torrid zone. At the same, the thermometer of M. de Reaumur did not rise in the afternoon but to  $26^{\circ}$ ,  $27^{\circ}$ , or  $28^{\circ}$  ; in the morning, a little before sun-rise, it was commonly at  $19^{\circ}$ ,  $20^{\circ}$ , or  $21^{\circ}$ . It is not to be doubted but it is the continuity of the heat which makes it seem so great in the torrid zone, for we have very frequently known the thermometer in France to rise considerably higher. The strength is exhausted by transpiration and violent sweats. The heat abates but very little during the night, and we even rise fatigued in the morning. To the degree the faculties of the soul find themselves incumbered, the lassitude of the body communicates itself to the mind ; and we then find ourselves in a state of indolence, which not only prevents us from acting, but unfits us for any thing that requires application and attention. It is very possible all travellers, in passing through the torrid zone, are not equally sensible to this effect of the great heat. There is reason to believe also, that, in the end, we recover in a great measure

measure our usual state; provided the re-establishment is sufficiently speedy, and no other causes throw any hindrance in the way.

But what will, no doubt, create surprise, is; that in these countries, where the heat is always so great, the humidity is always excessive; and so it is in all the places situated between the two tropics, where there is much wood. Even upon the highest eminences, from whence it is natural to imagine the waters should run off, you sink mid-leg into the mud. I have already intimated, that the houses were raised upon piles; but this does not prevent the mischief occasioned by the incessant dampness excited by the heat. At certain seasons, every possible care is required to preserve paper, and to prevent our saddle and portmanteau from rotting. To attempt to fire a gun after being loaded for three or four hours, is an useless effort; and there is no means of preserving powder, but drying it, from time to time, at some distance from a fire.

This country, the length of which I shall give by and by, is from forty to forty-five leagues in breadth from east to west, being comprehended between the coast and the Cordelier, whose direction is nearly north and south. Sometimes the coast abruptly changes its direction; and the chain of mountains, as if affected thereby, seems, although at so great a distance, to confine itself to the alteration; but it commonly takes its course in a direct line; inasmuch, that it is found at the least distance from the sea, when any gulph, like that of Guayaquil, for instance, penetrates far into land. Going beyond this gulph, southward towards Lima, the face of the country is altered; the soil is covered with sand seemingly deposited by the sea; or it possibly may be attributed to a contrary origin, this sand may have fallen from the Cordelier: the country is open; and there is no wood, as on this side the gulph.

But what more particularly distinguishes this part of Peru, lying beyond the Guayaquil, is, that, notwithstanding the sky is often cloudy, there never falls any rain: a singularity this which gives rise to a problem in physics the more difficult to be resolved, as it depends upon the most perfect acquaintance with the nature of clouds. It is not surprising that Augustin de Zarate, who was, I believe, the first who started this difficulty, has not better explained it; yet I am not acquainted with any person, though the subject has occupied the attention of many naturalists, who has done better.

We have now to speak of a phenomenon, the regular and certain effects of which is not confined to a small extent of territory. The country subject to the rains reach as far as Panama, and is in length more than three hundred leagues; and they are at the same time so heavy and incessant, particularly in Choco, the most central province of this tract, that the people the most avaricious of gain have the greatest repugnance to reside there, although this is, of every other country in the world, that in which nature has displayed the utmost profusion, by making the bowels of the earth a depository of gold dust. A fortune cannot fail to be made there in a little time; but there is nothing more certain than falling victims to the pernicious qualities of the climate, the humidity of which incessantly applied, checks transpiration, and suspends the sweat continually promoted by an oppressive heat. The other country in which rain never falls, and which is to the south of the Gulph of Guayaquil, extends beyond Arica towards the deserts of Atacama, or towards the confines of the torrid zone and the south temperate zone, a space of more than four hundred leagues in length by between twenty and thirty in breadth. There thunder is never heard, nor are we ever exposed to any storm. The soil there is always dry, or with more propriety we may observe, that nothing is seen but arid sands. No verdure meets the eye, excepting on the banks of the rivers, which, falling from the mountains, traverse these countries with unusual rapidity. So assured are they of having no rain, and so little apprehensive of it, that the houses in Arica, as well

well as Lima, are never roofed; they content themselves with mats by way of a covering, over which they throw a sprinkling of soil or ashes, to absorb the dew and damps of the night.

That the extreme differences in the constitution of the atmosphere, and the quality of the soil of these countries, have a connection with each other, cannot be doubted. The nature of the soil has an influence upon the lower region of the air. Forests, in all hot countries, notwithstanding the sky may be serene, and the air pure without, are almost always involved in a thick atmosphere. The fact is certain, because it is visible; besides, it is not difficult to explain the reason of it. Trees, like the earth, which is covered with corrupted vegetable and animal matter, and always exposed to excessive heat, is subject to a perpetual wasting. The evaporation takes the appearance of a fog which rises to no height, seldom above that of the trees, if we notice only the dense part of it; but the imperceptible parts ascend to a great height, sufficient, such is the attractive virtue of the wood, to constitute a species of communication between the forest and the clouds. The exhaled particles unite themselves with the vapours which form the clouds, which becoming, as it were, very suddenly heavy, lose their equilibrium on the bed of the air in which they are suspended. While it is raining, they are in the midst of a fog; that is to say, the rain falls not usually as it does here, breaking from a cloud apparently high over our heads: more frequently in the forests of the torrid zone, all the upper and lower regions of the atmosphere are equally thick, or furcharged.

Whatever tends to the progress of physics, is certainly not foreign to the relation of a voyage which has been undertaken to improve that science. I, therefore, shall not be afraid of joining to the recital of facts, certain reflections arising therefrom, from which some benefit may be derived. There is every reason to induce a belief, that the small particles of which the fogs and clouds are formed, are not small solid spheres; but that they are rather, simply, bubbles of air. Were this not so, it would be impossible that the clouds should rise, and that they should ascend to a greater height in summer than winter, when the air, less condensed, is less capable of supporting them. Attention to every other circumstance, and even to the manner the evaporation of liquors is accomplished, will confirm this truth. In fact, whatever internal agitation may be imagined in any liquor that evaporates, the small particles which are thrown out, quickly lose all their motion by the resistance of the air, if they were but simply thrown out, and are not possessed of a lightness disposing them to float and rise.

These small bubbles suspended in the air may be dissolved in various ways to rain. The wind, by driving them one against the other, may jumble and break them. The heat may become so violent, that the bubbles, by too great an inflation occasioned by it, may burst. A very contrary cause will produce a very similar effect, when the air contained in these small hollow spheres shall experience a too great condensation, which will cause such a diminution in the bulk of these small bubbles, that they cannot buoy themselves. When the wind coming from the sea, bringing a cloud along with it, conducts it over a coast covered with wood, it can affect but little alteration in the heat. A wood reflects the rays of the sun but in a very trifling degree; and it is certain that the heat, at a certain height above it, cannot be more intense than over the sea. But the continual evaporation, we have observed, of the woods, further the descent of the clouds and their dissolution; whereas, in the environs of Lima, and to the south of Guayaquil, nothing like this happens.

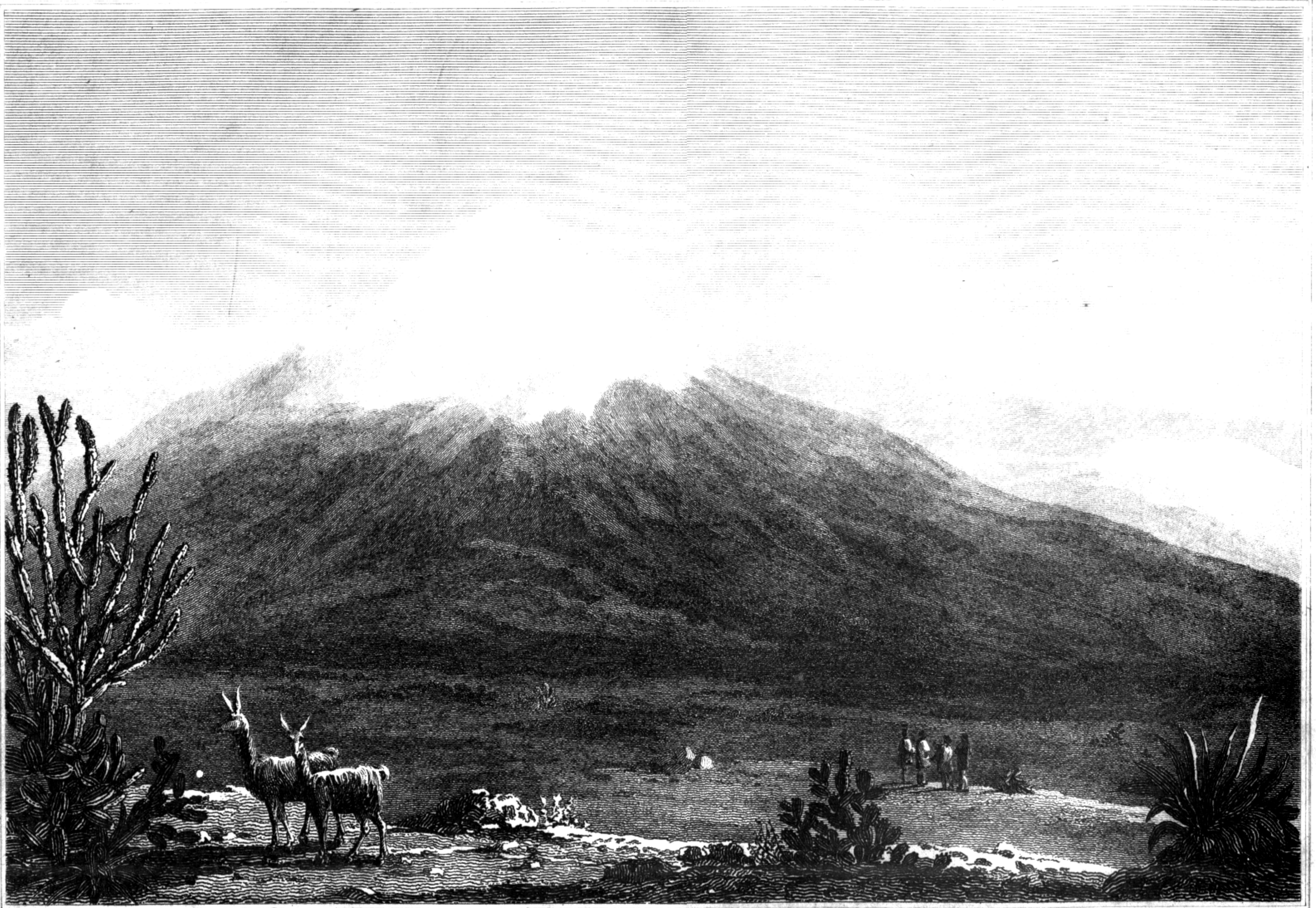
The winds, which prevail most in these parts, ordinarily blow from the sea and south-west: but when a cloud driven by this wind reaches the land, it becomes exposed to a

new heat, that is to say, to one different from what it received from the sea ; and which arises from the reflection, and the neighbourhood of soil, composed of nothing but sand. Thus the cloud is likely to be less disposed to fall by its own weight, as the volumes of each of its bubbles must necessarily augment. It is true, if the dilatation were already too great, from the facility the small portion of the confined air had to receive the heat, the neighbourhood of an overheated coast would only tend to accelerate the bursting of the bubbles, and rain would be the more certain. So there is oftentimes a sufficiency of rain where the irrigation of the soil is practised ; but it is more common to observe the clouds pass over to a distance of twenty-five or thirty leagues beyond, where they are met by the Cordelier, which, as a high wall, intercepts every thing not high enough elevated to fly over it.

April 23, 1736.—It is now a month and a half ago since we first visited these deserts, and it became necessary that we should think of making our way to Quito, the roads to which we had now reason to expect, from the cessation of the rains, were now beginning to be practicable. Being at this time at the mouth of the river Jama, which is nearly upon the same parallel with Quito, M. Condamine and myself agreed to separate and take different routes. M. Condamine followed the coast towards the north in search of the river of Emeralds, continuing to lay down a map of the country he crossed in re-ascending it. With respect to myself, retracing back my steps, I took a southern direction for Guayaquil, and penetrated the forests, the surface of which was so overflowed, that I was frequently, when mounted on horseback, up to the knees in water : it was, in truth, no other than a continual morass or slough. The violent efforts by the mules to extricate themselves, exposed one every instant to the hazard of being dashed against a tree.

Having reached Guayaquil, I quitted it the same day, of course could not myself acquire much knowledge of it. The town is large, and one of the most flourishing of all the country. Its advantageous situation renders it the staple of the commerce of both Panama and Lima ; and though it is at a considerable distance from Quito, it is, properly speaking, the port of this latter place. It is big enough, and divided into two towns, called the old and new. The houses, which are all built of wood, are separated but by simple partitions. Its situation is five leagues from the sea, upon the western bank of a wide and deep river, immediately below its confluence with the Daule, which is also a very fine river. Almost all the rivers falling from the Cordelier into the Pacific Ocean, are no other than impetuous currents, notwithstanding the great quantity of water that comes down. But these rivers come down from too great an height, and so rapid are their courses to the sea, that they have not time to enlarge themselves. Some are confined within very narrow beds, particularly the most part of those which cross the countries on this side the Gulph of Guayaquil ; others, running over a sandy soil, are much wider ; they frequently form great sheets of water, preserving, at the same time, the rapidity impressed by their fall. But the river Guayaquil, in falling into the gulph of that name, has a more gentle course, by reason that it runs almost parallel with the Cordelier ; its descent is not so great ; it is subject to flux and reflux ; and is the receptacle of many other rivers. All these circumstances render it more navigable, and abounding in fish ; but, at the same time, it is full of Caymans, or crocodiles, so common in America.

I embarked upon this river, ascending it, and, on the 19th May 1736, reached Caracol, seated at the foot of the Cordelier ; a place left by M. Godin about three days before. This gentleman, although he had all the mules of the province at his command, was under the necessity of leaving here nearly a fifth part of our equipage, by



*Drawn by A. de Humboldt.*

*Engraved by George Cooke.*

*Chimborazo from the Plain of Tupiza.*

*London: Published by Longman, Hurst, Ross, Orme & Brown Paternoster Row Nov. 1, 1812.*

reason, on account of the impracticability of the roads, he was obliged to render the weight as moderate as he could. He continued his route, and entered Quito on the 29th May, one year and some days more, from our departure from Europe. The manner of the reception of our companions in this capital is already known; all the different corporate bodies of the city hastened to congratulate them on their arrival, and they were lodged in the palace until they could provide convenient houses for themselves.

## PART II.

IT was the 10th of June before I reached Quito, having been detained at Caracol for want of a carriage, and my health had suffered considerably by the fatigue of the journey from Rio Jama, and more particularly from Puerto Viejo to Guayaquil. However, I set about, in my turn, to surmount the difficulties of the chain of mountains before me, which took me up seven days to accomplish, although I did not estimate the passage over at more than nine or ten leagues. But it is an extremely rugged ascent, interrupted by an infinity of different precipices, on the brinks of which we are often obliged to walk; we are obliged too, many times to pass a little river called Ojiva, in which many people are lost every year; though it is not a wide torrent, its rapidity is frightful: we pass it for the last time, we remove ourselves from it, and yet we dread it, so much it seems to threaten the traveller, even when at a distance from it, with its roar. Sometimes, descending, a deep ravine presents itself, which we have difficulty to get over, and often a whole day is consumed only in ascending its opposite side, and then we find ourselves but at a little distance from the place we left in the morning. The lassitude of the mules is so great, that you must allow them to rest and take their breath every seven or eight steps they make; the whole journey becomes thus, although very laborious, but intervals of alternate rest, and a slowly progressive motion.

The rain was so heavy, and every thing, during the first few days, so very wet, that it was not possible to make a fire; and we had to live on bad cheese, and biscuit made partly of maize. We made each night, when we were not so fortunate as to meet with a cabin already constructed by some other traveller, the best bed we could of the branches of trees, and their leaves. In proportion as we advanced, the heat of the torrid zone abated, and we soon became sensible of cold. When I say I was seven days on my journey, I do not reckon the stay I made in the town called Guarenda, in the heart of the Cordelier, and which presents a situation of rest which no person should fail to avail themselves of. The whole of my way was through woods, which terminated, as I have since satisfied myself, at the height of fourteen or fifteen hundred toises; and when I came to any station more open than usual, and cast my looks behind, I could see nothing but the immense forests through which I had passed, spreading themselves even to the sea. I at length got to the height, and found myself at the foot of a mountain called Chimborazo, always loaded with snow, and all the soil covered with frost and ice. The Cordelier being nothing else than a long range of mountains, of which an infinity of its pointed summits are lost in the clouds, it is not possible to cross them but by

by the necks or defiles ; but that by which I made my way, partook of its great elevation above the level of the sea. I was at the foot of the Chimborazo, and, in the mean time, I found myself already in the region where rain never falls ; to the greatest distance around me I beheld nothing but snow or hoar frost.

I followed exactly the same route taken by the ancient troop of Spaniards, who are handed down to us in history. This troop, commanded by Don Pedro Alvarado at the beginning of the conquest of Peru, and precisely two centuries before me, made this voyage to the aid of Francis Pizarro : he took, as I have done, his way from Puerto Viejo to Guayaquil, by way of Jipijapa ; from Guayaquil he ascended to the foot of Chimborazo, and went along the south side of this mountain to Riobamba, called at that period Rivecpampa : but in going over a hill, which could be no other than that known now under the name of Arenal, seventy of his followers, no otherwise acquainted with Peru than from report of its riches, and having taken no precaution, perished with cold and lassitude, among whom were two or three of the Spanish women who first ventured into the country. Having attained the height, I must necessarily descend. How was I surprised at the novelty of the view ! I imagined myself, after having been successively exposed to the ardour of the torrid zone and the horrors of cold, transported all at once, as it were, into the temperate climate of France, and into a country, as embellished here, in the most engaging season.

At a distance I beheld well-enough cultivated fields, a great number of towns and villages, inhabited by Spaniards or Indians, other smaller and pretty towns, and all the open and unwooded tracts, peopled as are some of our provinces. The houses, no longer constructed with bamboos, as are those lower down, but built of solid materials, some of stone, but for the most part of large bricks dried under shade. Every village is ornamented with a square, one of the sides of which is partly taken up by the church ; in no region of the world have they failed to set this place, which is a parallelogram, to the east, from which streets divide in straight lines, open to the distant country ; even the fields are frequently intersected thus at right angles, which give to them the form of a garden. Such is that part of the province of Quito, situated by the Cordelier to the north and south of this capital ; worthy, indeed, by its size, its edifices, and number of inhabitants, of its title. This city is about eight or nine hundred toises in length, by five or six in breadth ; is the seat of a bishop, and the residence of the president of the Audience, who is also governor of the province. It has a great number of religious societies in its bosom, and two colleges, which are a sort of universities, one under the direction of the Jesuits, and the other under the Dominicans. The inhabitants amount to between thirty and forty thousand, one-third of whom are Spaniards, or of Spanish origin. Provisions are exceedingly dear. The only foreign merchandize there is, and that carried on with difficulty, is at an excessive price, as our cottons, woollen cloths, and silk stuffs. I have frequently given six reals, or more than a crown, a pound for iron, to make some instruments of ; a drinking-glass costs eighteen or twenty francs : but every necessary of life is to be found there, and the country furnishes them in abundance.

It must be confessed, when one is in the deserts, at a distance from the Cordelier, and look upon this bristled chain of summits, it is impossible to imagine to oneself any thing concealed among them. One would be led to believe that, in climbing these mountains of such terrific aspect, when we have reached the height, we should be compelled by the inclemency of the weather to descend on the other side, where we should meet with forests like those we had left behind : it could never enter the mind that behind these mountains extend a second range equally high, and that they serve, neither  
one

one nor the other, but as a shelter to this happy country; where nature has traced out in her gifts, to say rather, in her profusions, the image of a terrestrial paradise.

This country is comprehended between the double chain of the Cordelier, which, like two walls, separate it on the sides of east and west from the rest of America. The first of the two chains is, as we have already mentioned, at from 40 to 45 leagues from the sea; the two are parallel to each other at about the distance of seven or eight leagues; I mean their ridges; sometimes they fly off, at others approximate, but always preserve the same direction, which varies little from that of the meridian: from their extreme vicinage, the land or plain which separates them must be very elevated. This plain is five or six leagues in breadth; the two chains of the mountains, which, to those on the outside of them, appear but a single mass, are very visibly distinct to the inhabitants living between them. Quito, and the largest portion of the province, is thus situated in an extended valley, which is ever reputed a mountain, from being placed between higher mountains, the most of which are covered with snow, or, if I may be permitted an expression conformable to that in usage in the country, snowed.

The Cordelier is not double in its whole length, though I know it to be so, having visited the country, from the south of Cuenca to the north of Popayan, to an extent of more than one hundred and seventy leagues; and I know it to be double yet further towards the north, although the country, by its sinking, loses by degrees the good qualities it possesses in the environs of Quito.

The sufficient width of the valley and its exposition to the sun would, it might be supposed, render the heat of it insupportable: but, on the other hand, the great elevation of the land, and the vicinage of the snow, it must be easily conceived, must temperate the heat; the two contraries, if one may so express oneself, are intermarried, and the issue of the connection can be no less a lasting autumn than a perpetual spring. They are strangers to many of the hurtful animals, the tiger and serpent, so frequent in the forests of the low countries; the heat in the higher country is not sufficient for them. The thermometer of Reaumur kept its situation at fourteen or fifteen degrees; the fields are always green, where grow the fruits of the torrid zone with those of Europe, as apples, pears, and peaches: the trees there are almost always in sap; every species of grain, and particularly wheat, is there very productive. Wine might be made there, had not Lima obtained an exclusive privilege to make it one of the objects of her commerce, while Quito subsisted on her commodities, and by her manufactories of woollen cloths, calicoes, and cottons.

Years of scarcity and dearth do not ordinarily furnish proofs of the fertility or goodness of the country in which it prevails, nevertheless Peru is a singular exception to this rule. Another example of a more rainy year than 1741, perhaps, a century will not produce. The crops all failed, and the harvest did not yield scarcely a seventh or an eighth part of the average of other years; the price of every thing increased, as may be imagined, enough; for the inhabitants of the country of Peru are unacquainted with magazines of reserve to have recourse to on such occasions. A very moderate degree of labour is sufficient to render the soil, which is there extremely teeming, liberally productive; yet is bread very dear, double and treble of what it is with us, because the views of the people of the province of Quito extend not beyond the present wants, and leave much of their lands uncultivated. The scarcity caused a rise nine times over in the price of wheat, maize, and all other grain, and even in potatoes, which, with the maize, is the chief food of the Indians. It seems the public calamity must have been extreme, and it was, too, spread widely round: in the mean time scarcely any body suffered; the poorer sort were somewhat incommoded, but

but they lived ; they had recourse to fruits and various sorts of vegetables, which never failed them. Cheese they were never without ; and, as the cattle could always find rich pasturage in the extensive open plains of the mountains, meat was always cheap, and at a price, although I have noticed the reason of the advance, which will surprize, when compared with that of bread ; beef was more than two or three sous a pound of our money.

Every thing necessary for clothing is there as easily obtained. Flax grows very well : I have seen some which had been cultivated in the country, which was very fine. The wools are not of quite so good a quality as ours, but by using the better sort of it they might make better cloths than they do. The Vicuna is not seen at Quito, but they have an animal of much the same species, which the Indians call Llamas ; it may better be compared to a small camel, and this they use to carry burthens of from fifty to sixty pounds weight : the Vicuna is to be found in Chili, and will live, no doubt, in many places of the Cordelier of Peru. Ingredients are found proper for dyeing. Indigo is common in the low countries ; in the higher, there is a shrub grows that gives a very fair yellow, and in many places they attend to the breeding of the insect, known under the name of the Cochineal, which gives the crimson colours. They carry on a commerce with Ambato, a place twenty leagues south of Quito, where the temperature is nearly the same ; perhaps the thermometer may stand at one or two degrees higher. There is now no want of spices, or, what is the same thing, they have it in their power to substitute, for those with which we are acquainted, others produced in the country, which they do effectively, and more successfully. Lastly, it is sufficient to chuse a situation either a little higher or lower (for we have shewn this long valley does not form a perfectly even plain), to enjoy the air and the advantages of the most different climates.

From the circumstance of the sphere being here very much equal, the days are always nearly of the same length with the nights ; it is a perpetual equinox, and the degree of temperature is nearly the same throughout the year in the same place : the rains only mark the seasons, and they fall nearly as they do in the low countries in the forests, from the month of November till May : these rains, together with the earthquakes, and frequent volcanic eruptions, which are in great numbers, constitute the bad qualities, of which but few good ones are behind to balance, of these countries. It is easy enough for a traveller who penetrates into the interior of the valley, to satisfy himself he does not descend within as he ascends without, and that he is at a considerable height above the level of the sea, but to what degree is difficult, nay impossible, for him to estimate. There is no time for reflection in such a journey ; man, in pursuing it, is then but a machine. All the collected waters discharging themselves from the two Cordeliers, fall in all directions of the horizon, on the outside of them, either to the North or South Sea, which mark their great height ; these waters form the highest cataracts in the world ; but they mark out nothing precisely to the simple traveller. Thus it is not astonishing that the inhabitants of Quito should have had the information from us, that of all the people of the known world, they are the highest situated ; that their elevation above the sea was from fourteen to fifteen hundred toises, and that they breathed an air more rarified by one third than other men \*. Nor need any part of the known world be excepted in this observation, as from every circumstance we have reason to believe, that the mountains of the temperate and frozen zones are uninhabitable, and even inaccessible to half their height.

\* The mercury in the barometer at Quito kept its station at twenty inches one line.

We found ourselves, at first, considerably incommoded by the rarefaction of the air, particularly those among us who had delicate lungs, felt the alteration most, and were subject to little hemorrhages; this no doubt arises from the lightness of the atmosphere, no longer aiding by its compression on the vessels, to the retention of the blood, which on its side maintains always the power of action. I did not myself, when we had occasion to ascend much, observe this inconvenience to increase; perhaps the reason might be I was already inured to the country, or it might be owing to the cold preventing the dilatation of the air to the degree it might otherwise have been. Many of us while ascending, fainted, and were subject to vomiting; but these accidents were more the effect of weariness than a difficulty in breathing; this is incontestibly proved by their never being subject to this inconvenience while on horse-back, and when they had attained the summit, where the air, notwithstanding, was more subtle. I do not deny that this great rarefaction hastens lassitude, and contributes not a little to exhaustion, for respiration becomes extremely oppressive at every exertion however trifling, and at the least motion we make we are out of breath: but cease these exertions and this motion, and the consequences are no more. I advance nothing that I have not been many times witness to, and should have witnessed many times more, had not experience quickly taught many among us that it was not permitted us to expose ourselves to so great a fatigue.

Quito is at the foot of one of these mountains, named Pichincha, which belongs to the western chain of the Cordelier, and is that on the side of the South Sea; this is ascended, as are the most part of the others, very high on horse-back. Many of these mountains resemble each other, inasmuch that their bases are formed by several hills covered with an argillaceous or common soil, from the middle of which a pyramid or mass of stones rises from one hundred and fifty to two hundred toises in height. There is some appearance that in remote times the whole was covered with a soil, and that it has slid by degrees from, or some sinking occasioned by an earthquake, have laid bare, the rocks.

This part of Pichincha is very difficult to climb, we remained upon its summit for three weeks: the cold was very intense, so much so, that some scorbutic affections began to make their appearance on some of us, and the Indians, and other servants we had engaged in the country, experienced violent pains: they vomited blood, and some of them were obliged to descend; but this indisposition was not continual while we were stationed upon the point of the rock, it arose from the intenseness of the cold, to which they had never been accustomed; the dilated state of the air did not appear to be the cause, at least the immediate or most approximate cause: I examined with the more circumspection into this, as I was aware that the most part of travellers had been led into an error with regard to the circumstance, by not enough unravelling the different effects. Frequently, when we have been at supper in the evening, we have had an earthen pan of fire, with many candles alight in the midst of us, and the door of our cabin with double hides, and yet all would not prevent the water freezing in our glasses. We had every difficulty imaginable to manage a pendulum; we were continually in the clouds, which absolutely veiled from our sight every thing but the point of the rock upon which we were stationed. Sometimes the sky would change three or four times in the space of half an hour; a tempest was followed by fine weather, and in an instant after, thunder, loud in degree to its proximity, struck upon our ears; our rock producing the same effect with regard to it, as the sands of the sea when the waves dash against them. We did not use our thermometer towards the end of our stay upon the rock, and when we thought the cold had become too intense;

but we had already observed the instrument to have been at some degrees below the freezing point, and that it varied more than at Quito. It had often varied between morning and the afternoon seventeen degrees, although always in the shade.

The mercury which stood exposed on the margin of the sea, was at twenty-eight inches one line, and on the rock one line below sixteen inches; the elasticity of the air was proved to be, as in the lower countries, and in Europe, exactly in proportion to their condensations. These observations, together with many others made with much care, not only confirm this exact relation, but proves to us that the intensity, even of the elastic force, or virtue of the air, is evidently equal in all the places of considerable elevation of the torrid zone. The actual condensations in every place are there proportional to the weight of the upper columns of air, which cause the compression: and these condensations or densities alter in a geometrical progression, while the heights of places are in arithmetical progression\*. Below, this is not the same, because the intensity of the elastic force of the air is there really less than at one or two hundred toises higher, and it must necessarily be considerably less, because it is so notwithstanding the effect of the heat which contributes to render it greater. This is not the place to insist farther on this subject, and to explain the different means I availed myself of to ascertain, in every place, the precise degree of this force. To close my account of the observations made upon Pichincha, the pendulum in seconds, when it was stopped immediately for the purpose of experiments, was shorter there, than on the shore of the sea, by thirty-six hundredths of a line†.

All our perseverance was requisite to struggle against the rigour of our situation for more than twenty days; and we were at length obliged to acknowledge the necessity of renouncing so elevated a station. The higher we ascended, the more ground we would explore, our discoveries dwindled almost to nothing. A high mountain not only arrests every cloud that meets it, but those also at a certain distance passing the side of it, they are thrown behind by the wind, and are there becalmed. Besides, if it happens the point upon which we are stationed should be free of them, frequently the others we want to see, are not; and the difficulty becomes incomparably greater when the sight of four or five mountains is absolutely necessary almost at the same

\* This supplies a very simple rule which I here explain in favour of some of my readers. They have only to look into the ordinary table of logarithms for the heights of the barometer, expressed in lines; and if they take a thirtieth part from the difference of these logarithms, in taking with the characteristic the four first figures only which follow it, they will have the relative heights of the places in toises. The mercury stood in the barometer at Carabouron, which is the lowest of our stations, at twenty-one inches two and three-quarter lines, or at two hundred and fifty-four and three-quarter lines: whereas on the rocky summit of Pichincha it stood at fifteen inches eleven lines, or one hundred and ninety-one lines. If we take the difference of the logarithms of these two numbers, it will produce one thousand two hundred and fifty, and if a thirtieth part is subtracted, it will give one thousand two hundred and nine toises for the height of Pichincha above Carabouron, which corresponds with the geometrical solution. The application of this rule is the more exact as the heights of the mercury in the barometer vary very little in any place of the torrid zone. The variation below, near the sea, is little more than two and a half or three lines, and at Quito about one line. M. Godin has been the first to notice these variations at certain hours every day at Quito, which I attribute to the daily dilatation caused by the heat of the sun upon the atmosphere. On the banks of the sea, this dilatation causes no alteration in the weight of the air, for be its column higher or lower its weight should be equally the same; but the dilatation caused during the day takes somewhat away from a part of the lower column, which adds more to the higher one; and this varies the distribution of the weight with relation to all places situate in the Cordelier, and even upon other mountains.

† I have noticed it on the mountains at thirty-six inches six seventy-one-hundredth lines; at Quito thirty-six inches six eighty-three-hundredth lines; and on the sea shore thirty-six inches seven seven-hundredth lines.

instant. We therefore became sensible it would in every respect be more to our advantage not to make the triangles of our meridian so high, and that we ought ordinarily to be satisfied with placing our signals upon the hills at the base of the rocky pyramids. But notwithstanding this very necessary precaution, nothing incommoded us in our labour so much, as the sudden alterations of heat and cold which we experienced from one moment to another, every time, however inconsiderable, we ascended or descended.

M. Condamine and myself had already once more ascended the mountain, but with no other design than to examine the station, when we were obliged instantly to descend; we were surprised by a storm, the wind had no particular direction, but blew from every quarter at the same moment upon us. The thunder drove the hail-stones horizontally against us, and was scarcely louder than the flash from a gun, which impressed the idea upon us, that upon the most elevated mountains the report of it would not be at all heard. We had every opportunity during the three weeks we were stationed here, to reform this first opinion; and we have been a great number of times since upon other mountains, where we have heard the most terrible rolling of thunder, sometimes over our heads; at others, beneath us. It is not to be disputed that the claps of thunder are sometimes very weak; such as they are generally when the lightning is seen and no noise follows. We do not hear them below; these are happily strokes without effect, which may arise from many causes, and often from the great distance at which we may be from them. At the time I have just mentioned, when upon the height, we were in the very focus of the storm, but apparently the inflammable matter had collected in too small a quantity.

The highest stations, in our work of the meridian, have always occasioned us the most trouble. The most elevated station we availed ourselves of for our triangles, is two thousand three hundred and thirty-four toises above the sea, and is named Sinazahuan; it forms one of the summits of the mountain of Afouay, which divides the jurisdiction of Riobamba and Cuenca. It will surprise you to be told the Incas have carried a road over this height, which they are in the habit of daily frequenting; but they are careful to chuse the weather; for if they have the misfortune to be caught in a storm, mingled with hoar or snow, they run a risk of never returning more. We fortunately carried a change of tents along with us; ten or twelve of the days we were stationed there, we had to substitute the one for the other three times successively. So greatly were they alarmed on our account at Atun-Cagnor, a town three or four leagues distant, that public prayers were offered up for us.

Every variety of weather we have had whilst amid these mountains, has sufficiently satisfied us how much certain philosophers have been mistaken, who have conceived the clouds of a nature different from fogs. The clouds have frequently not ascended to us, they have been five or six hundred toises below us, and have veiled the valley from us, while the inhabitants of the plain could not discern the sky: at other times these clouds having less weight, have risen higher, and become to us a simple fog in which we found ourselves involved. When I have noticed them very much above me, they have always appeared very white: I do not know what better I can compare them to with regard to the colour and form they then presented, than to heaps of cotton touching each other, whose union presents a wavy surface. With respect to the colour, it is precisely the same as with water and glass; glass we know loses its transparency when pulverised, and when looked on at its brightest side, appears to have all the whiteness of snow. So it is with water when reduced to very small particles, or almost imperceptible drops in the clouds or fogs. If these small drops are nothing else than small

hollow spheres, the interior air more or less dilating them must necessarily oblige the water which forms the bubble to vary its thickness, and the small sphere changing its bulk, the cloud must ascend to a greater or less height, till it meets with an equilibrium in the bed of the atmosphere in which it floats. To-day the clouds are of a certain specific weight, and maintain their situations at a precise height; they are observed throughout the whole mountain to attain but to a certain point; to-morrow the small bubbles will be bigger or less, the clouds become more or less light, and they will be observed to station themselves in a higher or lower region. It is at sun-rise they are noticed to be more susceptible of motion, when they ascend in an uniform manner, and sometimes with great velocity. But to return to their transparency, as the small bubbles which compose them, present too large a number of small surfaces to the light, they appear opaque when viewed from below; whereas were the spectator stationed above them, as we frequently were upon Pichincha and other mountains, all the reflected and intermingled rays, after having undergone various refractions, form the white, conformably to what we are acquainted with, regarding the property of light.

There is an extraordinary phenomenon visible almost every day upon these mountains, and which must necessarily be as old as the world, yet there is much probability we have been the first to notice it. The first time we remarked it, we were together upon a mountain of a medial height called Pambamarca. A cloud in which we were enveloped, removing, opened to our view the scene of a very brilliant rising sun, the cloud passed from the other side; it was not thirty paces distant, being yet too short a one to give it that whiteness of which I have spoken, when each of us saw his own shadow projected above, and only saw his own, by reason the cloud did not present an even surface. Its proximity allowed us to distinguish every part of the shadow; we saw the arms, legs, and head; but what astonished us the most was, that the head was decorated with a glory or circlet composed of three or four concentric coronets, of a very lively colour, each with the same variety as the first rain-bow, the red being the outward colour. The distances between these circles were equal, the last circle the faintest; and after all at a great distance we noticed a large white circle, which surrounded the whole. This was a sort of apotheosis to each spectator; and I must not neglect to apprise you, each every day calmly enjoyed the exquisite pleasure of viewing himself decorated with all these glories, and saw no trace of those of his neighbour's. It is true it is precisely the same thing with regard to the rain-bow, although it has not always been attended to. Each spectator views a distinct rain-bow, since the arch has a different centre for every person; but as the coronets which are seen upon the mountains of Peru are very small, and seem to belong to the shadow of the spectator, each has a right to appropriate what he discovers to himself. The first immediately encircles the head of the shadow, the others follow, and the spectator, only witnessing what concerns himself, merely conjectures that his neighbours find themselves in a similar situation.

I frequently noticed the diameters of these circles, nor did I fail to do so the first time I beheld them; for I hastily made a sort of radius with the first rules at hand, because I was apprehensive this admirable sight might present itself but seldom. I have remarked the diameters from one moment to another to vary in dimension, but whether lesser or greater, the interval or space between them always maintained its equality. Beside the phenomenon is only pictured upon the clouds, and on such only whose particles are congealed, and not, like the rain-bow, on drops of rain. When a cloud that shades the sun withdraws, and the sun becomes more ardent, quickly the

little bubbles of the opposite cloud necessarily dilate; their surface enlarging, the thickness of the water contained in them diminishes: and reduced to a thinner substance, it is only a greater obliquity, or bubbles more remote from the centre of the shadow, which can present to us, as other experiments of this nature have confirmed, the same colours. The diameter of the first circle was commonly nearly five degrees two-thirds, the next nearly eleven degrees, the third seventeen degrees, and thus on; the white circle was nearly sixty-seven degrees in diameter. The time proper to view this phenomenon, which requires that the shadow be projected from a cloud, is a sufficient excuse for the Peruvians never having beheld it, and why they should not be blamed for it. It is an hour not usual for any but a philosopher to be found upon the summit of a high mountain: it might probably be noticed sometimes, on our most elevated steeples. All of us have seen at a short distance from us, fogs confined to a very circumscribed space; one thing only was wanting, which was the sun in the opposite horizon; but where this latter circumstance has not exactly corresponded, a portion of the white circle is frequently to be distinguished, as I have at different times remarked since I have paid attention thereto.

The height of the rocky summit of Pichincha, is nearly the same with that of the lowest constant termination of the snow on all the mountains of the torrid zone; and I have found it at two thousand four hundred and thirty-four toises above the level of the South Sea. The snow falls much lower; it even, though but rarely, sometimes falls at Quito, which is more than nine hundred toises short of the height of Pichincha, but it may be thawed the same day: whereas in all the parts of the Cordelier I have gone over, I have observed it higher to lie undissolved. Some mountains do not reach this point of termination; others, as Pichincha, border upon it; others, and these in great numbers, lift themselves still higher, and have their summits continually covered; and consequently, from the snow being converted into ice, are inaccessible. When the mountains are not enveloped in clouds, their surface must be a little thawed during the day; but the sun ceasing to act, the surface becomes glazed; the water passes into the interstices of the lower beds, and there freezing, renders the snow extremely compact, and forms a solid whole. The surface hardens at the same time, and becomes as smoothly polished as a mirror, so that it is as it were impossible to ascend higher. This limit depends upon too great a variety of circumstances not to be liable to great irregularities. Many mountains in Peru have a disposition to emit flame, for almost all of them have been volcanic, or actually are so notwithstanding their snows, which much induce a forgetfulness of the circumstance: it is besides certain, the larger the dimension of the mass is which constitutes their base, the more susceptible they must be of heat, and the limit of congelation farther removed; as these masses must be considered a secondary soil, every day imbibing the heat of the sun; on the other hand the part covered with snow, when very considerable, produces a contrary effect; it causes a greater cold around, capable of congelation, or producing ice a little lower down. In the mean time the difference is not great, inasmuch as I have remarked the lower boundary of the snow, to form a level line through all the mountains of Peru, in a manner to enable us at a glance to judge of their height.

The volcanoes, as I have noticed, create the strongest exception to this rule; but the exception is sometimes such as it may be difficult to foresee. This I have remarked with regard to Cotopaxi, a station of our meridian, situated on the eastern chain. The spot on which we were stationed was between one hundred and fifty and one hundred and eighty toises below the snow; but this mountain, from a recent irruption in 1742, had caused the snow above to thaw. We saw it from below sometimes increase, and

sometimes

sometimes diminish, in thickness; but, at the same time, the boundary of the beginning of congelation likewise lowered; and fell below the station on which we were encamped to work at our triangles. I gave myself the trouble, at the beginning of 1743, again to visit the mountain, to satisfy myself of this, and various other circumstances, so that I could not be deceived. This singularity seems to have some connection with those acknowledged operations, in which congelation is hastened by the assistance of fire. In the meantime, the examination led me to a discovery, that the singularity depended upon a very different cause. I discovered, that what at a distance I had taken for snow was not, but water, which, falling from above, and gushing from out the mountain on every side, froze as it run. It is certain, that the least degree of heat is sufficient to thaw particles so delicate as snow, when it falls upon a surface interiorly heated. But when a body of water of a certain thickness runs over the same ground, the heat below may be so weak, as not to communicate with the upper surface; and if this surface is found exposed to an excess of cold, nothing can prevent it being converted into ice. The snow on the higher parts of Cotopaxi thawing, from its vicinity to the fire, continually produces new water, and this water freezing below after being divided into an infinity of streams, forms, as it were, when received at a certain distance, ringlets of ice on the mountains, but, looked at from a certain distance, it appears a perfect covering. The same effect may have place upon all the other mountains; the snow only maintaining itself to a certain limit in descending; whereas a body of water will, in proportion as it decreases in bulk, freeze on its surface, lower on the mountain. Such is the elucidation of this phenomenon, derived to me from my visiting the places. If regard is had to the exception it furnishes, and to others less considerable, we repeat it, the lower limits of the snow constitutes a sufficiently exact level line through all the country in the environs of the equator.

But if we examine the circumstance in a more general manner, if we direct our regard to the globe, this line will not be found exactly parallel with the earth: it is evident it must, in its direction, gradually fall, as it retires from the torrid zone, or advances towards the poles. In the middle of the torrid zone this line is at two thousand four hundred and thirty-four toises above the level of the sea; at the entrance into the temperate zone, it will be found but two thousand one hundred, passing by the summit of Theyde, or the Peak of Teneriff, which is nearly of this height\*. In France and Chile, the line will pass at fifteen or sixteen hundred toises, and, continuing to descend

\* The Pere Feuillée, to whom we are indebted for a great number of observations, assigns, in a manuscript relation presented to the Academy on his return from a voyage to the Canaries in 1724, two thousand two hundred and thirteen toises to the height of the Peak of Teneriff. But we are induced to believe, for reasons we shall give, that we must take from the calculation of this height one hundred and forty or one hundred and fifty toises at least. The observer worked upon a base, whose length, not being more than two hundred and ten toises, was much too short, considering that he was distant from the Peak not less than ten thousand toises. This base, too, from the badness of its situation, was not equivalent to another much less: for, conformably to a method scarcely ever good but in theory, it was directed up the mountain, instead of having a direction nearly perpendicular: infomuch, that the base was really reduced to forty toises, which had been placed in a situation nearly perpendicular to two visual rays directed to the summit of the mountain. Finally, P. Feuillée neglected the inclination of his base, because they told him the sea had formerly covered the ground. Now, were this true, the ground must have acquired elevation since, and still more towards the foot of the mountain where his second station was fixed: now, as the inclining of the ground was no more than three toises in two hundred and ten, which is by no means considerable, the two visual rays, by reason of the elevation of the second station, have met at little distance, and at little elevation in the air; and regard being had to the shortness of the reduced base, which was not more than forty toises, we must diminish the height calculated by P. Feuillée a thirteenth or fourteenth part. I conceive the reader will not consider this note as foreign to a work of the nature of this, which has so often a relation to mountains.

in proportion as it removes from the equator, it will touch the earth beyond the two polar circles, though our calculations have regard only to the summer.

This line may be called that of the Constant Lower Boundary of the Snow, for there must necessarily be another, i. e. the Upper Boundary; but this, to all appearances, the highest mountain of the world does not reach. If there were mountains high enough to lift their summits above all the clouds, the more elevated parts of these high summits would be free of snow, and we should there enjoy, could we attain the station, a perfect and perpetual serenity, as is improperly conceived of Olympus, Mount Ararat, and of Theyde, or the Peak of Teneriff, although the latter does not completely reach to the lower boundary of congelation. To limit myself simply to declare here, what I myself proved, some of the mountains which have served as stations for our triangles, Cotopaxi for instance, have a portion covered at from six to seven hundred toises of perpendicular height. It will be unnecessary to mention others along our meridian, as well as on both sides the river Magdalene, approaching the sea from the north, to Saint Martha. Chimborazo, which is the highest of all I have noticed, or even seen, is three thousand two hundred and seventeen toises above the sea, and the part of it on which the snow lies more than eight hundred. But if the clouds sometimes pass lower, which opens the summit to our view, they also pass sometimes considerably above the summit, even to three or four hundred toises, which has enabled me at a distance to judge of them, comparing their height with the dimensions of the mountains I had already measured. In a word, the space, in the perpendicular or vertical sense, between the two boundaries, the upper and lower of the snow, is at least, in the torrid zone, eleven or twelve hundred toises; we must even considerably add to this height, if it is permitted us to confound the clouds formed by the smoke of the volcanoes with others, for I have observed it ascend seven or eight hundred toises still higher. Thus, if we should stop at this last boundary, and there had been mountains high enough, a girdle or zone of ice might have been noticed, the beginning of which would have been at two thousand four hundred and forty toises above the level of the sea, and ending at nearly four thousand three hundred or four thousand four hundred toises; not that we are to conclude from hence the cessation of the cold at this point, since it is certain, on the contrary, the farther we are removed from the earth, the greater will be the degree of cold, but by reason that the clouds or vapours cannot ascend higher.

It is not difficult, by a little attention, to be convinced, that the cold must naturally increase in the proportion we are lifted into the atmosphere. It is not only the first obstacle to our ascending, but also to our breathing, in a very great elevation, had we the power to reach it; a circumstance which has not enough impressed the minds of those, whose ideas have led them to conceive and talk of an agreeable residence above the region of the clouds. It had been reasonable, in order to describe the cold felt upon the summit of mountains, to insist upon the short duration of the power or action of the sun, which falls but for a few hours upon each of their sides, and frequently not at all. An horizontal plain, when the sky is clear, is subject, in the middle of the day, to the perpendicular action of his rays, the force of which nothing can diminish; whereas an inclined surface, the sides of an high point of rocks, almost perpendicular, can only be played upon by them. But let us consider for a moment an insulated point, in the midst of an elevated atmosphere, and draw an abstraction from all mountains, and even clouds which float in the air.

The more diaphanous the centre may be, the less of heat it will imbibe from the immediate action of the sun. The facility with which a very transparent body gives passage

passage to the rays, is evidence that its small particles is scarcely affected by them. Indeed, what impression can it receive, opposing no obstacle to their passage? According to the observation I have formerly made, the light, when formed of parallel rays, loses not here below one hundred thousandth part of its force traversing a foot of free air. One may judge from this, how few of the rays are deadened, or can act upon this fluid, in passing through a bed whose thickness (I will not confine myself to say) is not an inch or a line, but I will even say, is not the simple diameter of a molecule. In the meantime, subtilty and transparency are the greater as more elevated: the natural eye, in looking at objects at a distance in the Cordelier, will sometimes perceive this. Finally, the grosser air heats below, by its contact with, or vicinage, to denser bodies that it surrounds, and upon which it creeps; and the heat may communicate itself with it, nearer and nearer, to a certain distance. The lower part of the atmosphere, by this means, daily contracts a very considerable heat; and it will be the greater, to its degree of density. But this, we know, is not the case at a league and a half, or two leagues above the surface of the earth, although the light, when it passes there, should be more vivid. The air and the wind must necessarily then be very cold; and the more elevated the situation in the atmosphere, the more penetrating it must be.

Further, the heat we stand in need of to exist, is not simply that we receive every instant immediately from the sun. The momentary degree of this heat corresponds but with a small portion of that which all the bodies which press upon us have contracted, and by which ours is pretty nearly regulated. The action of the sun does but merely maintain in the same state the aggregate of total heat, by supplying the diminution it continually suffers from the night. If the degrees added are greater than those lost, the body of heat, as in summer, will augment, and it will increase more and more to a certain line; but, conformably to what we have seen, this addition, or this total, thus to express it, of accumulated degrees, can never reach far up the summit of a high mountain, the most elevated point of which is generally but of small size. This is the cause why the changes in the thermometer were so great upon Pichincha; while at Quito they were so little, and still less on the sea side. The lowest state of the thermometer, at every place, has always relation to the degree of heat imbibed by the soil, and this quantity being very small upon the summit of the mountain, the portion supplied by the sun during the day must necessarily be found relatively greater.

It is certain one may compare the heat the earth contracts by the constant action of the sun, with the most part of other physical effects, which augment by degrees, and are comprehended in limits they cannot pass. The degrees of augmentation which result from the complication of the whole, are never continually equal: these degrees, principally, if considered in the middle of their progress, go on diminishing, till they become nothing, or till the effect ceasing to augment, reaches the utmost verge of accretion. Now it follows from hence, that the lesser the accumulated heat is, or the further distant from its *maximum*, the more augmentation it will admit in an equal time by the action of even the same agent.

There is yet another singularity peculiar to the elevated parts of the Cordelier, and which arises from the same cause; and that is, when you pass out of the shade into the sun, a greater difference or alteration is felt in the temperature of the air than here during our finest days: there are times when every thing conspires at Quito to render the sun exceedingly piercing; one step only is necessary into the shade, and we are almost sensible of the cold, a circumstance that could not be, were the body of heat acquired by the earth much more considerable. This explains why the same thermo-

thermometer placed in the shade, and afterwards in the sun, undergoes in no weather or place any proportional alteration. Upon Pichincha, this instrument commonly stands in the morning some degrees below the freezing point, which must be regarded as the natural temperature of the station; but let this instrument be exposed during the day to the sun, it is not difficult to conceive the effect will be very great, and much more than double in whatever manner measured.

There remains another object, the last to be considered on this subject, which is, to explain why sometimes we experience an excess of cold, while the thermometer indicates but a moderate degree of it. It seems that three or four degrees, at which this instrument stands below the freezing point, does not correspond with all the inconvenience, it is better to say, with all our suffering: but we ought to recollect that we had left a very temperate climate, of which we had made to ourselves, as it were, a new country, and that our removals into another had always been very sudden. It is known from daily experience, in the countries we speak of, that the heat and cold are but relatively great, and that our present disposition depends in a great measure on the place we have quitted. When we ascend or descend the Cordelier, and pass the places elevated six or seven hundred toises above the sea, we feel the cold or heat in the same place, as we may happen to have come from below or above it; if from below, we are cold; on the contrary, we are in the most violent perspiration when coming down from an height on which it froze.

We had already remarked something similar to this, when in our own islands we had to ascend the highest of the mountains there. After a journey of five or six hours at Martinique, we attained the summit of Pelée at one o'clock in the afternoon, and we were shivering with cold, although the thermometer stood yet at  $17\frac{1}{2}$  degrees above the freezing point: it is even necessary our residence in any place should be of considerable length, to know that we could make it our constant one; and this proves that our pores do not easily undergo an alteration, and that we do not all at once take a disposition of body congenial with each climate. Here we may discern the cause of all those unfortunate accidents happening at times to those obliged to pass over some very high ridge or defile on leaving or entering the Cordelier. By the interception of the wind by the mountain we find a species of shelter, and enjoy a temperate climate in our ascent; but no sooner have we reached the ridge, than we are all at once seized on by the cold, rendered incomparably sharper by the frozen particles carried by the impetuosity of the wind that rises upon us. Let it be reflected how much the haste of this change differs from the slowness with which our different seasons are brought on, and the danger to which we are exposed under such circumstances will be better imagined. I have had also more than once or twice occasion to remark, that a very little difference of elevation in very high stations make a very considerable one in their temperature: sometimes the weather where I have been stationed has been but moderately unfavourable. When at thirty or forty toises above me on the part of the mountain covered with snow, on which the storm seemed most to press, I could clearly behold it was very different. Some travellers have only been able to preserve themselves, when the storm has been of short duration, by ripping up the belly of their horses, and sheltering themselves in them.

I have already mentioned a passage at the foot of Chimborazo, above the Guayaquil, or Caracol: but there is another pass, infinitely more to be dreaded, and is the most famed in all South America; it is named the Pass of Gouanacas, situated in  $2^{\circ} 34'$  N. latitude, between Popayan and the little town of Plata. This pass conducts  
over

over the eastern Cordelier, which maintains its height, its summits at certain distances all along being covered with snow, keeping its first direction, and terminating at about one hundred leagues northwards, towards the confluence of the rivers Cauca and Magdalene, between which it passes from Papayan. The Pass of Gouanacas is never hazarded without the utmost dread, particularly when it is taken approaching the eastern side. It is necessary to encamp as high as one can, or rather to stop at a village, which is of the same name, on the exterior of it; and it is also necessary absolutely to resolve to wait there, if the blackness of the clouds suspended above us gives indication of bad weather. The mules, which are used always in these journeys, on account of their sure-footedness and strength, are still more exposed to the dangers of this pass; they have not only, like their masters, to guard against the intenseness of the cold, but they are worn out with fatigue: for more than two leagues on this way, the bones of these animals that have died in the journey lie so thick, that it is not possible to set a foot down without treading on them. I have been obliged to encounter this defile in order to embark on the river Magdalene for Carthagena, on my return to Europe. As I crossed it from the interior of the Cordelier, I must necessarily have been in a situation more able to buffet with the labour of the passage, on the south side of which, and at a distance of from four to five leagues, there is a very high mountain covered with snow, called Cocounoucou, an old volcano, now absolutely extinguished, and on the north another mountain, covered in the same manner with snow, which is that of Houila. Upon the summit of the defile is a small lake, the water of which was not frozen; and, at less than one hundred toises from each other, on one side are found the sources of the Cauca, and on the other the sources of the Magdalene. I saw many packages that had been left by travellers on their route, but we chose to leave them to another time, preferring this to the not getting out of this dangerous pass between sun-rise and sun-set. I estimate the distance between Popayan and La Plata at from nineteen to twenty leagues, while the journey commonly requires twenty or twenty-two days.

Although the mountains are rendered inaccessible by the snow, above the lower freezing boundary, yet M. Condamine and myself ascended the volcano of Pichincha in the month of June 1742, which is another summit more elevated than the first, behind which, with respect to Quito, it is situated. We found ourselves surrounded with snow; it blocked up for some days all the road to us, and we were sometimes obliged to exert ourselves very much to prevent it crushing our tents down upon us, under which we were sheltered; from its recent fall, and yielding to the pressure of our steps, the declivity, too, not being precipitous, nor the distance long, we were able to reach the height and the edge of the volcano, whose different eruptions had proved fatal to Quito. The extreme sharpness of the cold would not allow us to remain little more than half a quarter of an hour. It occurred to us, in our inspection of the places, that two obstacles had suspended the great effect of the volcano upon the town; one was the interposition of the stony summit, upon which we made the long and distressing stay; the other, the half-circle of rocks upon the mouth of the volcano, to the side of Quito, the resistance of which determined the direction of the erupted matter generally another way. It is singular, while we were in the midst of our examination, another volcano in the eastern chain flamed beneath us, Cotopaxi, which, by melting its snows, recalled to our recollection its ancient ravages, and one of the most remarkable epochs in the history of those countries.

M. Condamine and myself ascended once more above the lower boundary of perpetual snow, upon Chouffalong, or Le Coraçon de Barionuevo, another mountain, one of the hills

hills of which served us as a basis to our triangles. Its stony parts were formed like the roof of a house, and its northern extremity being almost quite bare of snow, we availed ourselves, though with much labour, of the circumstance: when we had reached the height, we found ourselves covered with ice. The height of the mountain is 2476 toises, conformable to the geometrical admeasurements I have taken of it: the mercury in the barometer was at 15 inches 9 lines, rather more than 12 inches 3 lines lower than on the sea-shore. A barometer had never before been taken so high, and there is much probability that no person had ever been at the same place; for these sorts of journeys are attempted without a motive. The love of riches, which moves so many people at Peru, as every where else, so far from leading them up such elevated rocks, rather urges them to seek and ransack the hollows beneath.

It is enough that the first bed of snow that has fallen upon a mountain has not been subject to be dissolved; that the first and second should be still less liable: thus, it seems, the snow must necessarily increase in thickness, till, losing its shelving form, it sinks, which an earthquake may also occasion it to do. Masses large as a house have been seen to roll down, and have kept their body, although considerably below the line of the level we have mentioned, by reason they have fallen under shade into some hollow or deep ravine. The wind covers these masses with sand, which attaches itself to them, hence they lose their whiteness, and may be mistaken for real rocks, of which they partake almost of the hardness. One of these masses having fallen from Cotopaxi in 1739, I ascertained some months after a part of the thickness of the snow on the mountain: I measured it by the aid of a micrometer, examined it in various places, and found it fifty-four feet thick, although this could only be considered as a part of the whole thickness. I had occasion, at the beginning of the year 1743, to measure another thickness, though a partial one, and I found it seventy-six feet, at the time the mountain was vomiting torrents of smoke and flame.

### PART III.

#### REMARKS, OR PARTICULAR OBSERVATIONS, UPON THE NATURE OF THE SOIL, EARTHQUAKES, VOLCANOES, &c.

THE mountains around Quito appear to contain but few metals, notwithstanding, in remote and even at the present times, gold in dust has been found. The places where they actually find a considerable quantity of this precious metal, particularly in dust, are commonly situated much lower. On the north side of the equator, and at two degrees distant from it, the Cordelier is perceived to have almost lost all its height: scarcely it possesses one-fourth of the elevation it has in the environs of Quito; it afterwards rises again very suddenly near to Popayan, which is situated at from eight to nine hundred toises above the level of the sea\*, but it lowers once again, not the eastern part, but the other chain on the side of the South Sea, which, turning aside to the west, after having thrown out a branch to the east of the gulph of Darien, takes the way of the isthmus of Panama, dividing the Choco from the rest of South America, and passes on to Mexico.

\* The mercury stood in the barometer at Popayan at 22 inches 10 $\frac{3}{4}$  lines; nor would it vary, as is the case in all elevated places in the torrid zone, beyond 1 $\frac{1}{2}$  line.

There is much gold contained in the western Cordelier, as also in the base of the eastern one, and in another very long chain, which breaks a little to the south of Popayan, and afterwards passing on by Santa Fé de Bogota and Merida, ends towards Caraccas upon the North Sea; as the gold-dust is found in situations low with respect to the rest of the Cordelier, it is never discovered till two beds of different strata are removed, under which it lies concealed. The first is of ordinary or the common earth, three or four feet thick, and sometimes ten or twelve; beneath is often found a stratum or bed not so thick, of a yellowish colour, and yet lower a third, of a violet colour, which is often three or four feet in thickness, but sometimes not an inch, and this it is with which the gold is mixed. The colour of the earth changes again below, becomes black as at the surface, and contains no metal. It appears as if the gold, before it had been covered by the two upper strata, had been washed by the running waters. We are also assured that this soil, once washed or robbed of their riches, never produces them more, which proves that the gold had been, as it were, deposited there: it is probable this may not hold good with regard to other mines, in which the metal may be incorporated with some stony substance. It is pretended in these last, which, properly speaking, are the mines, and which are found in the bowels of the mountains, though I have never seen them, and are only found beyond the south of the equator, there is a daily new production of metallic matter.

In the environs of Popayan, as is the case at Quinamajor, Barbacoa, and even at Choco, the situation of which places I have already noticed, they do not carry away the soil to be washed, as is done at Chili: to do this would be almost always too difficult, and even impossible, particularly as the roads are impracticable for beasts when burthened. The gold is separated from the earth by an operation upon the spot: a trench is made of about forty feet in length, according to the inclining of the soil, to which they give from five to six in breadth; the two first strata are thrown out, and water passes through the excavation by means of an opening at the lower extremity; while this is passing five or six men are labouring in the water with shovels and iron rakes to separate the earth which contains the metallic particles. This labour will last for a fortnight or three weeks, and until all the parts of the third bed comprehended in the space have not only been diluted, but drawn away, and nothing remains at the bottom but the gold-dust, with the heaviest part of the sand. They know when they have dug a sufficient depth by the blackness of the earth adhering to the implements they use in digging. There is no failure of water in the country, where the rain falls almost incessantly; at the same time, as the soil is not competent to the retention of it, they have sometimes to go far in search of it; and their right to it in the forests is disputed, so that they are obliged sometimes to purchase it very dear, and it is really obtained but by weight of gold; and the expence is great to convey it to the places where they want it, which is done by a sort of aqueducts, hastily constructed of the bamboos I have before mentioned. This difficulty, joined with a want of provisions, which in these places are not to be got at, or which they have not time to cultivate, obliges them frequently to abandon their works in different places, rich in the extreme.

The remainder of the labour, the gold-dust, and the sand with which it is intermixt, once collected, takes up but little time; a few washings are sufficient; for which purpose they use a sort of dish or basin, in which they toss it about, and pour it off from time to time. The operation is frequently forwarded by the glutinous juice of certain plants, which fixes upon the sand, but not with the same facility on the gold: when the latter is drawn away by the sand, which often happens, they use the loadstone to liberate it. Sometimes they have recourse to a very opposite expedient: they make use of mercury;

to Choco they are frequently under the necessity of doing this, as the metal is found mixed with the platina, a species of pyrite peculiar to the country. The artists who work in the deserts of America should be acquainted only with the simplest modes of chemical operations. To withdraw the quicksilver without losing any of it, they content themselves with a wooden dish or basin, in which they put a certain quantity of water; in the middle they lay two tiles, upon which they put another, heated, and which is intended to support the amalgamation, and then cover the whole with a lesser basin, so that it may throw back the exhaling mercury into that below. The gold in the environs of Popayan is from twenty-one to twenty-two carats. One of these trenches, the dimensions of which I have given, will not give sometimes more than a single mark, but frequently five or six, and even as far as eighteen or twenty, when they have been fortunate in their discovery. Grains of a very considerable size are sometimes found.

Quito cannot boast of possessing those riches, so ambitiously sought after, that are found in Choco, but it possesses a more substantial blessing in the goodness of its soil. I will add to what I have already noticed, that they have frequently there the pleasure to behold the trees bearing at the same time blossom, buds, and fruit. It cannot be doubted that the perfect equality of the seasons is favourable to those trees peculiar to hot countries, though it appears to have rather a contrary effect upon those transplanted there from Europe. A convenient temperature for the latter may easily be found in the Cordelier, but, as the heat is not distributed there as with us, there must be always something wanting; they cannot, as it were, repose themselves for a certain time, and at another, so act as to collect their whole force; and this may be the reason why our fruits never reach the perfection they acquire in Europe. Perhaps, among those of the country, there are also some which might be improved by changes in the seasons; for even the tree which produces the most delicious fruit that I am acquainted with, loses its leaves every year.

This fruit, which I can compare to none of ours, and which I should be tempted to place in a rank above any, is called Chirimoya: it is frequently larger than the largest of our apples; its skin is rather tougher, though not quite so thick as that of our fig, and of deeper colour, and is in a manner covered with scales, slightly formed, or as they might have been engraven with a chisel; the pulp is white and fibrous, but infinitely delicate. The Anana, when well chosen, and thoroughly ripe, is also of exquisite flavour, and the most perfect perfume: but the most part of other fruits, which leaves not a little degree of acidity behind their flavour, have in the torrid zone a taste of cassia or some other, disagreeable to those not accustomed to it.

After all, it is not clear that, with additional attention, it would not be possible, not only to improve the quality of these fruits, but to increase their quantity. Agriculture, notwithstanding the smiling appearance of the plains, is, as are all other arts, extremely neglected in Spanish America, where they ignorantly renounce many advantages it would cost them little to benefit from. It will be with difficulty credited, though the fact is not to be disputed, considering the great number of people who go every year into these countries, and cannot be conceived entirely ignorant of gardening, that the trees of Peru are all wild: they understand not here to convey the sap of one tree into another, and as little do they comprehend the utility of thinning them of their branches. Thus must we be ignorant of the real value of all these so naturally fertile lands. We can only comprehend that they are capable of being rendered more productive, since they are so very liberal, with so little trouble to the inhabitants, in their gifts.

Perhaps the ashes thrown out at the eruption of the volcanoes, when perfectly incorporated with the soil, may contribute much to its fecundity; the whole country abounds

in salts, almost every morning the salt-petre appears lightly, like meal, spread over divers places of the streets and ways; I merely relate these particular things, and relate them only because I think them worthy of notice. M. de Tournefort has observed that the water-melons thrive well in the saline soils of Armenia, particularly in the neighbourhood of Trois-Eglises (three churches). To judge by the course of the rivers as laid down in our maps, we must imagine this last place to be very elevated. I was much surprised to find a place at fifteen or sixteen leagues north of Quito, in every respect like to the south of the river of Mira. The soil there, particularly in the village of Saint Catherine de Salines, is sufficiently impregnated with salt, to furnish the whole province with that article: excellent water-melons grow in the same place, and the whole of the canton is the most fruitful of the Cordelier.

It is easy enough to examine into all the depth necessary of the soil in Peru, the earth being there cut into ravines; these are found frequently of two hundred toises broad by from sixty to eighty in depth, some even more considerable. Many of them may have been the effect of earthquakes, but the most part have been caused by the rapid currents of water from the mountains, capable in storms of carrying every thing along with them; yet these streams at other times are so shallow that one may pass over them without wetting one's feet; sometimes the sides of these ravines are cut perpendicularly down, and if we give ourselves the trouble of going to their origin, we discover they begin by a vertical fall, which sometimes is not announced by the height of the surface. We frequently walk over a gentle declining sward, and on a sudden come upon the brink of one of these precipices.

It is only necessary to seek out some convenient descent into those species of large beds of rivers, which contain at all times but little water, to examine, as one would desire, all the qualities of the different stratas of the soil. No vestige is distinguishable there of those violent inundations which have left so many marks of their ravages in every other region. I have taken every possible means, but always without success, to discover any shells; probably the mountains of Peru are too high. You see much of that black sand which is attracted by the loadstone, and it is easy to recognise that the strata, the different shades of which are very distinct, so far from being the effect of different alluvions, are rather the expansion of matters vomited from the volcanoes; almost every thing there has the appearance of being the work of fire. Some of these mountains are, to a very great depth, composed but of scorïæ, of pumice-stones and fragments of burnt stones of all sizes, and sometimes all concealed beneath a stratum of common earth, which bears both herbage and even trees. These materials are ranged in beds of different thickness, which diminish in proportion to their distance from the mountain: they are observed to reduce themselves to a foot, half a foot, and to an inch; nor are they lost sight of for four or five leagues, when they get into the vicinage of some other volcano, and then the same effect becomes visible as in the first.

These remarks have been made chiefly at the foot of Cotopaxi, which is become a mutilated cone, the summit of which has been carried away: the base of this volcano is rounded, and has taken a regular form by the effusion of matter which has not been thrown out with force enough, or which was too light to be impelled. I have before said, that the stony pyramids found at the summit of almost every mountain, have been only laid bare, perhaps, by the sudden rolling of the soil from them, or by the imperceptibility of their fall. But the cause, there is much reason to imagine, has been different with respect to many of them, and possibly with Pichincha, to which we now allude. It is not impossible that the rock which is burnt and black, and which

contains much of that matter attracted by the loadstone, has been heaved up by the action of a subterraneous fire; this fire having been without sufficient force to make its way through the summit of the rock, had found other avenues to its rage.

To return to Cotopaxi, we discovered at its base, beds of burnt stone reduced to very small particles, in thickness equal to five or six times the height of a man; the upper bed is the thickest, and is the same I doubt not that spreads itself very wide, and is hid under the good soil, which was originally nothing else than ashes. I am led to believe we must attribute the upper bed of calcined stones to the dreadful eruption taken notice of by historians, which took place after the death of Atahualpa, King of Quito, about the beginning of 1533, and of which we have viewed with greater astonishment other more extraordinary vestiges, — stones of from more than eight to nine feet diameter, carried to the distance of three leagues, many of which form furrows that indicate the volcano from whence they were ejected. These large stones are not burnt like those with which the base of the mountain is covered, and could not have been ejected so far but at the first effort of the explosion. Thus it seems a like effect is not to be apprehended while the mouth of the volcano continues of its present breadth, which appears to be six hundred toises.

The Indians pretend this disaster was announced to them, and they considered it as the fatal moment when any opposition to the strangers who were come to subjugate them, and had already much advanced their conquest, was become useless. Pedro Cieca de Lion, Garcilasso, Herrera, and all the other historians mention this circumstance; they attribute these predictions in part to Huayana Capac, the twelfth and last emperor, and father of Atahualpa; this volcano, which is from five to six leagues distant, is called Latacunga. Were we authorised to compute the different eruptions by the multitude of different beds of calcined stones, found at the foot of this mountain, having no regard to the interior beds, we might set it down the twentieth in succession: apparently there has been an issue of new matters, and of different colours and species at every eruption, and have been successively ejected as they are diversely arranged in the bosom of the mountain. In the mean time, there can be no doubt of there having been many conflagrations, and it is as certain that that of the year 1533 has not been able alone, to supply the quantity of matter lying at the foot of the volcano. Had all the different beds been ejected at the same time, the divers establishments the Indians had in the environs of it, would have been entirely destroyed, whereas some of these are yet in being; but nature forgetting, thus to express myself, her slow manner of acting, embraced all this portion of the Cordelier in the convulsion. I have observed these broken beds in the environs of a place called Tioupoulou, at more than four leagues from the volcano, and more than forty feet in depth; how prodigious must have been the agitation thus to have fractured, and piled them upon one another in the manner we find they are!

It was apparently, in remote times, and perhaps ere the country was yet inhabited, that was formed that mass of pumice-stones which is at nearly seven leagues from Cotopaxi. The pumice-stones found upon the mountains are only of a certain bigness, and simply fragments. But in this place of the Cordelier which corresponds with our tenth triangle, these stones are whole rocks, parallel shelves of from five to six feet thick, within a space of more than a square league, the depth of which is unknown. Only imagine the nature, and what must have been the volume of fire capable of throwing this enormous mass into fusion, and doing it at once, and in the place where it now is; for it is easy to satisfy one's-self it has never been thrown out of order, and that it has cooled in the very place it has been liquified. The neighbourhood has profited by this

this immense quarry, the whole of the little town of Latacunga, in which there are some very pretty houses, has been built entirely of the stone taken from it, since the earthquake which destroyed it in 1698.

The last burning of Cotopaxi (1742,) which began in our presence, did no mischief but by the melting of the snows; although it made a new opening at the side near the center of the portion of the mountain continually snowed, while the flames made their way at the summit of the truncated cone. There were two sudden inundations, viz. the 24th of June, and the ninth of December; but the last is incomparably the greatest. We must first mention that the water fell at the least from seven to eight hundred toises. It overthrew in its first impetuosity the post we had availed ourselves of as a station for our sixth and seventh triangles. The surges it formed in the plain were lifted up more than sixty feet, and in some places more than one hundred and twenty. Not mentioning the infinite number of cattle it carried away, it swept along with it from five to six hundred houses; and was the occasion of the death of from eight to nine hundred persons. All these waters had a course of seventeen or eighteen leagues to run, or rather to ravage, to the south of the Cordelier, before they could find an outlet at the foot of Tongouragoua; the voyage of which was made in three hours and not more: hence the mean rapidity of the waters may be estimated. But if we may be permitted to judge by the various effects produced at three or four leagues from the mountain, its course must have been after the rate of fifty feet in a second of time. There were very heavy stones more than ten or twelve feet in diameter that had changed their places, and had been transported more than fourteen or fifteen toises, upon an almost horizontal surface.

Every body at Quito was persuaded that the waters issued from the bowels of the mountain; and this they were the more led to believe from the signification attached to the word volcano, in that country. They pretend volcanoes are of two species, *i. e.* fire and water. Indeed it is not impossible that large collections of water may be formed in these cavities, which lie high upon the mountain. This collection, as M. Descartes explains it, may be kept up by the evaporation of the waters below. If this evaporation is not the effect of the heat of the sun, a very strong one may be kept up by its contiguity to a subterraneous fire; and when these waters shall have collected to a great quantity, we are not to be surprised at its breaking down the walls or partitions that confine it, and that it should spread all at once over the face of the country. But we do not conceive this to be the case with respect to Cotopaxi, to prove that the waters boiled in the reservoir formed in the summit of the mountain for their reception, and that it was the excess of ebullition which occasioned their bursting their bounds, they instance the drowned carcases, which almost all appear to have been exposed to the action of boiling water.

Many necessary points with relation to the present subject were cleared up to me on my visiting the places. I had many testimonials from persons entitled to all confidence, who fortunately were resident but upon the edge, as it were, of the inundation; who assured me the water was not hot. They observed an oily matter which was inflamed, and forced on before it; and which might have produced the effect observable on the carcases. They assured me also, when they heard the great noise which probably was caused by the first fall, the mountain was enveloped in the clouds, which absolutely confutes the relation of those who gave out they had seen the waters like a river, rush over the brink of the volcano, in a manner resembling liquor pouring from an inclining vase. And lastly, it appears to me on examining the extent of the space which had been overflowed, and every other circumstance attending the overflow, that a very small

small quantity of water might have occasioned all the disaster. The inundation was not of more than a quarter of a minute's duration in many places; it was commenced by a stunning noise; neighbours reciprocally gave notice of the danger to each other; but many, instead of taking to the neighbouring heights, met the danger. The waters disappeared in an instant, and but for the melancholy vestiges and marks it left of its passage, it might have been conceived as a dream. I suspect the snow had melted for some time upon the summit of the volcano, and that below being more distant from the fire, preserved its consistence, and formed a kind of basin with the ridge of the mountain; but the melting always increasing, and the weight augmenting too considerably, the waters must necessarily fall; and with it many large masses, of fuming snow were observed to be drawn along with them, and which, although broken, were yet more than fifteen or twenty feet diameter.

Something similar to this happened when a violent earthquake overthrew the little town of Latacunga, and many hamlets or villages as far as Ambato, lying towards the third part of our meridian. A very high mountain situated very near to Chimborazo, fell; as even did some others of less elevation which were upon the same line, and whose fragments have been of use to us in our triangles. There issued so great a quantity of water from them, as to cause a great inundation in the neighbourhood of them, if soil falling, diluting, and metamorphosing itself into mud may be called an inundation; but it was a mud sufficiently liquified to run under the form of streams and rivers, of which many vestiges are yet visible. Cargavirazo, the highest of these mountains, is now but of middling elevation. Others partially crumbled, one half fell, and the other remained; having the side from which the falling portion separated, too steep to be ascended. I had the curiosity to go up one of these mountains named Pugnalic, at the foot of which we had a signal; I met with an infinity of clefts, which obliged me to proceed with caution, and the soil appeared to me extremely pulverised. Cargavirazo, when it lost its height, took a dwarf conical figure; there must be much salt contained in it, which aids congelation. Although it is much below the line of the lower level of the snow on other mountains, yet is its summit continually covered with snow; and is the only marked exception to what is generally observed. Whole fields planted with trees are noticed, that have evidently been detached and carried to some leagues from each other. At Latacunga the calamity was in the extreme, whole families were buried together under the same roof, and absolutely there was not a house in which they had not to lament the death of some one inhabiting it. This dreadful scene took place on the 20th of June 1698, one hour after mid-night, and the whole mischief was caused by the first shock.

It is not astonishing that judicial astrology at Peru should pretend to a prognostication of the periods of earthquakes and volcanic irruptions. A taste for this vain science is preserved in every country, where true science has yet made but little progress. A curious man, a substitute of the professor of mathematics in the university of Lima, published, in 1729, a work, under the title *D'Horloge Astronomique des Tremblemens de Terre*, (an Astronomical Dial of the Earthquakes,) in which he confined himself to mark out the fatal hours during which they were to be apprehended. In 1734, he sent out another book into the world, wherein he imparted to the public a Tragic Period, to serve as a rule to distinguish the years subject to similar accidents; and he did not scruple to advance, that if, in 1729, his astronomical dial was already confirmed by one hundred and forty-three observations, he had, in 1734, collected seventy others, equally conformable thereto. It has been long observed, that maritime places are more exposed to these dreadful phenomena than inland ones. If we glance over the places of the

old world, where volcanoes have been, we shall find them to have been situated on islands, or upon the shores of the sea. The Alps, for example, are not subject to earthquakes; it is the portion of Italy advancing upon the Mediterranean. So it is in America. There may be sometimes a collection of inflammable matter concealed in the bowels of the earth, waiting only for water to take fire. Now, on any unusual rise of the sea, occasioned either by the flux or reflux of its tide, or from being simply impelled by the winds, it may make its way over the banks within which it is confined, into divers subterraneous canals, and find an entrance into many places, which under any other circumstance it could not otherwise do.

It follows, evidently, from hence, that all the circumstances of the moon's motion, so sensibly affecting the flux and reflux of the sea, may also extend themselves to earthquakes and volcanic irruptions. Thus an astrologer, continually talking of the head and tail of the dragon, of the moon, of the distance of this planet from the sun, and its situation, with regard to his apogæon or perigæon, and talking of them as he ever does, in a vague and undetermined manner, may by hazard advance many things in this particular divination not altogether void of sense. I have ever considered the subject worthy of discussion; and I will now, in a few words, offer here the result of my observations, which falls naturally within the plan of this relation.

The great number of individual causes which contribute to these dreadful accidents, is, perhaps, the reason why the concurrence of many of them often supply what is wanted on the side of others; but the precise instant, and even the time of the effect must be, necessarily, more uncertain. Perhaps the heat of the sun may also have some influence: we know, at least, that it is assisting to the inflaming ingredients or matters chemists sometimes mix together, to give us a representation of a volcano when emitting fire. The town of Lima has been three times destroyed: the first time, in 1586; the two last, in 1687 and 1746. The first disaster happened in July the 9th; but the two others in October the 19th and 28th; after the equinoctial tides had thrown a great quantity of water into the subterraneous cavities, and when the sun, advancing in the austral hemisphere, began to dispense his greatest heat. There have been three other very considerable earthquakes; the one of the 17th June 1678, we cannot urge as an example to our purpose; but the other two happened in November the 27th and 13th, one in 1630, and the last in 1655.

Thus, it appears, that of the six violent earthquakes with which Lima has been afflicted, instead of having happened at seasons in the year remote from each other, four have taken place in the months of October and November. This singularity may, perhaps, be regarded as chance: but, is it not possible, that the return of the heat, and high tides, may have contributed thereto? The gales that blow upon the coast of Peru in the environs of Lima, may have a tendency to keep these back in the September equinox, longer than in other places, considering also, that numbers of these places are situated far southward, although in the torrid zone. The communication there is between the different subterraneous cavities may also give a wider scope to the effect of the flux and reflux of the tide. The most violent of the different earthquakes I have felt, threw down some houses in the vicinity of Latacunga, and killed many people. There was seen at the same time, although not at the same hour, a flame issuing from a lake, on a neighbouring mountain. This was at the beginning of December of the year 1736. From other similar observations I have made, and all things else considered, it appears to me, confining myself to a simple fact, that if in all seasons in Peru they are liable to these disastrous phenomena, they are nevertheless rather more liable to them in the latter months of the year.

The author we have already spoken of, assures us there is absolutely no other critical time, than that of the six hours and some minutes the moon takes up to pass the horary circle between three and nine. This is precisely the time of reflux: for it is full sea upon almost all the coast of South America in the South Sea, when the moon passes the horary circle at three. But let us examine how many different circumstances must concur to prove that our author's rule must be an exact one. It is necessary the focus of the fire be always in the same place; the water must always take the same course, enter always with the same celerity, and that the mixture ever take up exactly the same portion of time to enflame. If it is not necessary that all these circumstances should concur, very exact compensation should at least be made to supply the defect. The earthquake, also, of the year 1746, which occasioned the destruction of Lima, did not happen while the moon was on her way of the horary circle between three and nine, but, on the contrary, while she was passing the same circle between nine and three. The tragic period is not less false. The author pretends, that nothing is to be apprehended but when the horns of the moon are found in the malignant signs of Scorpion, or Amphora; whereas these horns were then in the signs of the Virgin and Pisces.

There are few weeks during which some slight shocks of an earthquake are not felt; if it is not in one place, it is in another; frequently no person pays any attention to them, nor gives himself the trouble to collect or mark their dates. An astrologer, therefore, is at full liberty to boast, that the observation has never been at variance with his conjectures. The only earthquakes to be dreaded by him are those attendant with the most disastrous consequences. Happily these are rare, and may, after all, happen as well at one season as at another. They have always the wise precaution, not to confine their prognostications within too narrow bounds; and beside that, the pretended rule ought at least to quadrate with some one precedent calamity, with those upon which they form them.

After all, if we would proceed with any method to discover if there is really a period that may be denominated tragic, we must go another way to work. We should begin by the examination of the simplest facts: the first object of our observations, it seems to me, should be the eruptions of the volcanos. In truth, with respect to the return of earthquakes, the events are extremely complicated; they may be transmitted solely by the contiguity of lands, though they be very remote from the point which corresponds to the upper focus of the eruption. In every place shocks are felt around to a certain distance, and yet we are ignorant where particularly to fix its origin: whereas the points of volcanoes are more determinate in every country, and, consequently, supply us with less equivocal observations. Any regular returns of these eruptions have never been remarked; and this must necessarily be the case with respect to earthquakes, which, for the reasons we have stated, are less under the controul of any rules, and because that, in every place, they must depend upon a great number of casualties. The rain-waters very often produce the same effects as the sea-water, and it should be considered, it is in the latter months that the rains fall the most in the countries we are speaking of. Sometimes a very violent shock in the Cordelier is felt but over a very confined space. There is then reason to imagine the inflammable mass lies very deep, and that the sea has no immediate connection with the accident. Both the sea and rains contribute to many shocks, which is a double reason they should be very frequent.

A comparison of volcanic eruptions with earthquakes throws some light upon many particulars of these last phenomena. Volcanoes, when in flames, act, as it were, by fits; the flame or smoke is seen to issue by whiffs or blasts. When I was engaged on one of our stations at Senegualap, my night's sleep was continually interrupted by the

roaring of the volcano of Macas, called Sangai. I was more than eighteen thousand toises distant from it; notwithstanding, the noise was so frightful, as every moment to wake me. This mountain is of a conic form, wanting only the point, whose sides are perfectly regular. The people of the country all agree, that the mass of this mountain is continually diminishing; its actual height above the sea is two thousand six hundred and sixty-four toises. The flames issue from its summit, and a stream of inflamed matter often rolls down one of its sides; a ravine at its base has taken the name of the Sulphur River. The roarings of the volcano are sometimes like the noise of a sharp peal of thunder; but they quickly resume their regular periods, and rumbling sounds, the repetition of which so much incommoded me. I have observed the same puffs of smoke issue out at regular intervals from Cotopaxi, and form a sort of sheaves of light. The intervals between their emissions, when I observed them, were from forty-two to forty-three seconds. The inflamed matter in the interior of the volcano doubtless extended each time its dilatation: but this dilatation in part weakening, the inflammable parts also a little diminished; which would open a way for the exterior air to re-enter, either by the upper or some other opening. Perhaps, also, at this interval, other inflammable matter, unlooked for, may find an easy introduction; and instantly the eruption acquires additional force, and re-produces a new emission of smoke, or a new roar.

The materials which take fire in the bowels of the earth, and which cause earthquakes, must necessarily be subject to the same changes. When the fire takes in a concavity, the dilatation of the inflammable matter and air will naturally spread wide, and be conveyed to other subterraneous cavities communicating with the first. The roof of the vault is also violently forced, as are its sides, although the mass of matter lies precisely beneath. The direction of the effort will depend then upon the horizontal or inclined position of the cavity; hence the cause why sometimes the walls of buildings remain or not, according to the manner they are situated. The roof of the vault returns to its place, after the necessary vibrations, which are independent of the action of the fire. Their speed must depend upon the size of the vault, its thickness, and the nature of the materials of which it is formed. But the effort of the explosion abating a little, while the air becomes much too compressed in the adjacent cavities, it makes a violent reflux towards the place of eruption, which opens another access, and gives occasion to a new and more violent shock. Thus there must necessarily be returns marked by a more excessive agitation; and their intervals will be more sensibly regular, till some considerable change happens, either in the inflamed matter, or the disposition of the cavity. The weakest shocks are those from the earth already shaken; the strongest those caused immediately by the inflammation, which are analogous to the roarings of the volcanoes, and which are repeated more or less frequently, according to the facility with which the materials take fire, and also, as their volume has relation with the extent of the spaces in which they are inclosed.

A country containing in it so many inflammable materials, must be a subject to furnish many other remarks to natural history. Nature has there, thus to express myself, continually in her hands the materials and implements for extraordinary operations. Exhalations may produce, in certain places, the same casualties as in the famous Grotto del Cani. Waters impregnated with mineral matters will make hot-baths, while, in other places, we shall see them labouring at incrustations and crystalizations. But I must wave these details till another time, that I may give you a little account of the part of America over which I passed on my return.

## PART IV.

RETURN OF THE AUTHOR FROM QUITO TO THE NORTH SEA, BY WAY OF THE RIVER MAGDALENE;—OBSERVATIONS ON THE LOADSTONE, &c. &c.

WHEN I returned to Europe, and left Popayan, instead of taking an immediately east direction, and passing out of the Cordelier by Guanacas. I could continue my way northward between the two chains of mountains, and cross the eastern one near its extremity. The eastern Cordelier has many ways over it. There is one about forty-five leagues more to the north, which leads from Cartago to Ibague, over which we must be drawn by oxen, instead of mules. These animals have rings through the cartilage of their noses, to which are fastened leather thongs, which are used as reins: they have more strength to bear the fatigue of so oppressive a road; the traveller is less exposed to being fatigued by their movements, which are slow; and besides, the feet of oxen, by their particular make, are better adapted to extricate themselves from the mires, in which are found neither any stones, nor any solid body to prevent them sinking. I had many reasons for preferring the Pass of Guanacas; but what induced me the more readily to make choice of it, was, being desirous of examining the course of the river Magdalene, I was very glad to reach as soon as possible its shores. I had traced a map of the countries I had gone over, and I proposed to myself to make one of those washed by this river.

It is exceedingly easy for an observer to determine the situation of any place, through which he is led, respectively, in all this part of America. It is sufficient, with the compass, to take the direction of the most distant mountains in view. We chance, after a few days, to journey at the base of these mountains, and others in the distance present themselves to our sight. I found it equally easy to ascertain the length of the way. My course was almost always pretty exact to the north; I made my way, as it almost always happens, but by short journeys; when one is obliged to carry one's bed and provisions along with one; besides our batings were frequent. Sometimes we have been stopped by the sudden swelling of some river, at others by our mules straying, which occasioned the loss of part of a day to find them. They are never tied to one another, but left at liberty, that they may find more easily and with less risk provender in the woods, and on the brinks of the precipices: there is no better method known to guard against losing them, than by accustoming them to the company of horses, which will serve them as a guide, and will seldom wander far. I endeavoured to benefit all I could from these forced batings, of which I did not always complain, by acquiring a more perfect knowledge of the country. I took the latitude every time it was in my power. I had a round iron plate with a hole pierced through it, by which I was enabled to form a gnomon, which I sometimes raised to eight or nine feet in height by resting it upon the trunk of some tree, or against the posts of my tent; when, instead of encamping in the open field, I met with any cabin or house, the facility of the operation increased; I had only to throw aside a little of the thatch, to introduce my plate of iron. To avoid the error of any unevenness of the surface which commonly was not horizontal, I received the rays of the sun upon a tile or piece of board; from the small hole I let fall a plumb-line; I measured with the equal divisions of a compass of proportion, using a reed for my rule, two sides of a triangle, the length of the ray of light which served for the hypotenuse, and the shortest distance from

from the point on which the ray fell to the plumb-line; and afterwards resolved the triangle by a calculation, treating it, as it was effectively, as a rectangle.

These observations, frequently repeated, corrected one in the estimation I made of the length of distances. The badness of the road in the Cordelier, the passage of the streams and rivers we frequently meet with when we leave it, and when we coast the base of the chain of mountains, will throw us into errors, howsoever experienced we may be. The reiterated observations of the latitude came to my aid, which, in combining with the directions I obtain with the load-stone, I attained to determinations sufficiently exact for all the ordinary purposes of geography. We follow the shore of the Magdalena almost all the way from Plata to Honda, and most generally its western side. Honda is a very cheerful little town, and the first port we meet with up the river, which is nevertheless navigable considerably above. I had no means during my navigation, of availing myself of the heights of the mountains; but I measured from time to time the rapidity of the run of the river, and continually noticed its direction. It took me up fourteen days to descend, submitting myself to the force of its current, and every night I slept on shore. The time I remained at Mompox, which is a very pretty port about seven leagues above the confluence of the Magdalena with the Cauca, is not comprehended in these fourteen days. I annex here under the form of notes, the result of all my ascertainment, which were confirmed, when on the 30th of September 1743 I reached the lower part of the river in the vicinage of Carthagena and Saint Martha, the situation of which places with regard to Quito, I was acquainted with\*.

\* PLACES *situated in the CORDELIER.*

	Northern latitude.	Eastern longitude with relation to Quito.
	D. M.	D. M.
Combal, a town situated at the foot of a volcano always covered with snow, - - -	0 49	0 42
Ypiales - - - - -	0 45	0 54
Pasto, a small town at the foot of a volcano almost always burning, - - -	1 13 $\frac{1}{2}$	1 13
Mercaderes, a village three leagues to the north of the river Mayo, which separates the two bishoprics of Quito and Popayan; and to which Huayana-Capac, the last Inca, carried his conquests towards the north, - - -	1 45	1 19
Popayan, an episcopal city, - - - - -	2 27	1 54

PLACES *out of the CORDELIER.*

La Plata, - - - - -	2 23	2 51
Bacche, a hamlet half a league west of the river Magdalena, - - - - -	3 16	3 25
Neyva, a small town on the other side of the river Magdalena, and nearly three leagues and a half distant from Bacche, and south-south-east of it, - - -		
La Villa Vieja, upon the east side of the same river, and three leagues north-east from the same hamlet, - - - - -		
Honda, the first port up the river Magdalena, - - - - -	5 16	4 9
Mariquita, a small town four leagues to the west one quarter south-west of Honda; the river Guali running from Mariquita, passes through the middle of Honda, - -		
Ibagué, a small town eighteen leagues to the south of Honda, and eleven to the west, the road divides here from Carthago, and which they journey with oxen. Ibagué is five or six leagues to the west of the Magdalena, - - - - -		
Mompox, a very commercial port upon the western bank of the river Magdalena, -	9 19	45
Tamalameque, a small town upon the east shore of the river; — is nearly eight leagues and a half to the south of Mompox, and thirteen leagues to the east, -		
Laporquera, a town upon the western side of the Magdalena, and three leagues from the mouth of it, - - - - -	10 59	3 58

I was under the necessity, in order to attain to a sufficient exactitude in the construction of my map, frequently to notice the variation of the needle, and I was farther invited to this from a conviction how much such sorts of experiments are interesting to philosophy. I remarked at Quito the magnetic needle to dip towards the north nearly ten degrees below the horizon. I say nearly, because, having caused three different needles to be made of different lengths, I could not succeed in fixing them precisely to the same inclination. At the period the variation was found to be eight degrees and a half towards the north-east, it was at Plata the same the following year in July; and four months after, I found it at Saint Martha at six degrees thirty-five minutes, and always to the north-east. I must notice by the way, as it is subject to divers irregularities, I have frequently found portions of rocks spread over the surface of the soil, which exteriorly were black, and appeared to have been exposed to the action of fire, and I really believe they had been thrown there by the explosion of some volcano. I can compare them to nothing so properly as masses of clay, split and chapped by the sun, and afterwards converted into stone. The variation of the needle differs so much in these places, that you have only to advance five or six paces, and you find a difference sometimes of more than thirty degrees in the direction of it. These stones are noticed in several places; but at about one third of the distance on the way from Plata to Honda, three leagues or thereabouts from Bacche, some remarkable ones are to be found. Two of the biggest of them have a surface of nearly twenty feet in length, by eleven high; it is very smooth, not chipped, and upon it are engraved many characters and figures. \*Similar stones equally well engraved are found in places more remote and higher in the neighbourhood of the Cordelier, but I have seen none of them; I have made a drawing of the last. They call them, but very improperly in the country, painted stones (*Piedras Pintadas*); probably some inscription is designed by all these figures and characters, and points out by hieroglyphics, the time and circumstances of the eruption of volcanoes, or other events, as some extraordinary and sudden swell of the river. It appears to me to have been a work of much deliberation and patience; the figures are cut two inches and a half deep at least. The property these stones have to act so forcibly upon the compass, demonstrates them to contain some portion of iron in their composition, but these parts lie very much concealed; the interior of the stone is white, and it is beside of very fine grain.

I shall take occasion, while upon the subject of the load-stone, to communicate the result of some experiments which occupied me much on my journey home. It has not relation to a phenomenon that required but one examination, but a succession of examinations made at different places more or less distant from the equator. I do not intend to examine if in magnetism the governing force is distinct or separable from the attractive force; but I am aware that many persons pretend that one of the poles of the earth is much more attractive than the other, and I could not make choice in the world of a more proper situation than Quito, to work at the decision of this question. With this design, I caused to be made a long needle of copper, suspended as a magnetic needle. I had a small nail soldered to one of its extremities and set upright, I placed this needle horizontally upon a pivot, and to the nail just mentioned, which was vertical, I applied an ordinary magnetic needle; and I so contrived it, by small counter-weights, that the whole was in exact equilibrium, and could turn freely about. It is evident that if one of the magnetic poles has more virtue than the other; as if, for example, the north pole has more force, two effects must necessarily arise; not only the magnetic needle will take its ordinary direction, but being attracted more power-  
fully

fully by the north pole of the earth, it will communicate by degrees a motion to the copper needle, and both in moving towards the north, will fix themselves upon the magnetic meridian; so that the two needles will form a straight line.

Every thing being prepared, I made not one only, but twenty or thirty experiments at Quito; and I made them with the more care, as I was prejudiced in favour of the opinion I proposed to myself to verify or confirm: but all I could do, the copper needle was never moved by the other, and remained always stationary. Neither could I attribute its repose to the friction of the pivot, for when I put the two needles together, they took very properly the direction given to them by the loadstone. I also, sometimes, put the copper needle in motion, while the other was left at perfect liberty, and the first remained always indifferently fixed in every direction. From hence it may be naturally concluded that the two magnetic poles of the earth, which perhaps result themselves from the complication of many others, have sensibly the same power. Our ordinary magnetic needles, when they take a certain direction, yield to this power; and they cannot advance, literally, in their length, because they are kept back by their centre, but as that I made use of in my experiments was in every respect moveable, and nevertheless it made no advance neither to the north nor south, it was a demonstration not to be disputed, that one of its extremities had no more tendency towards one of the poles, than its other extremity to the opposite.

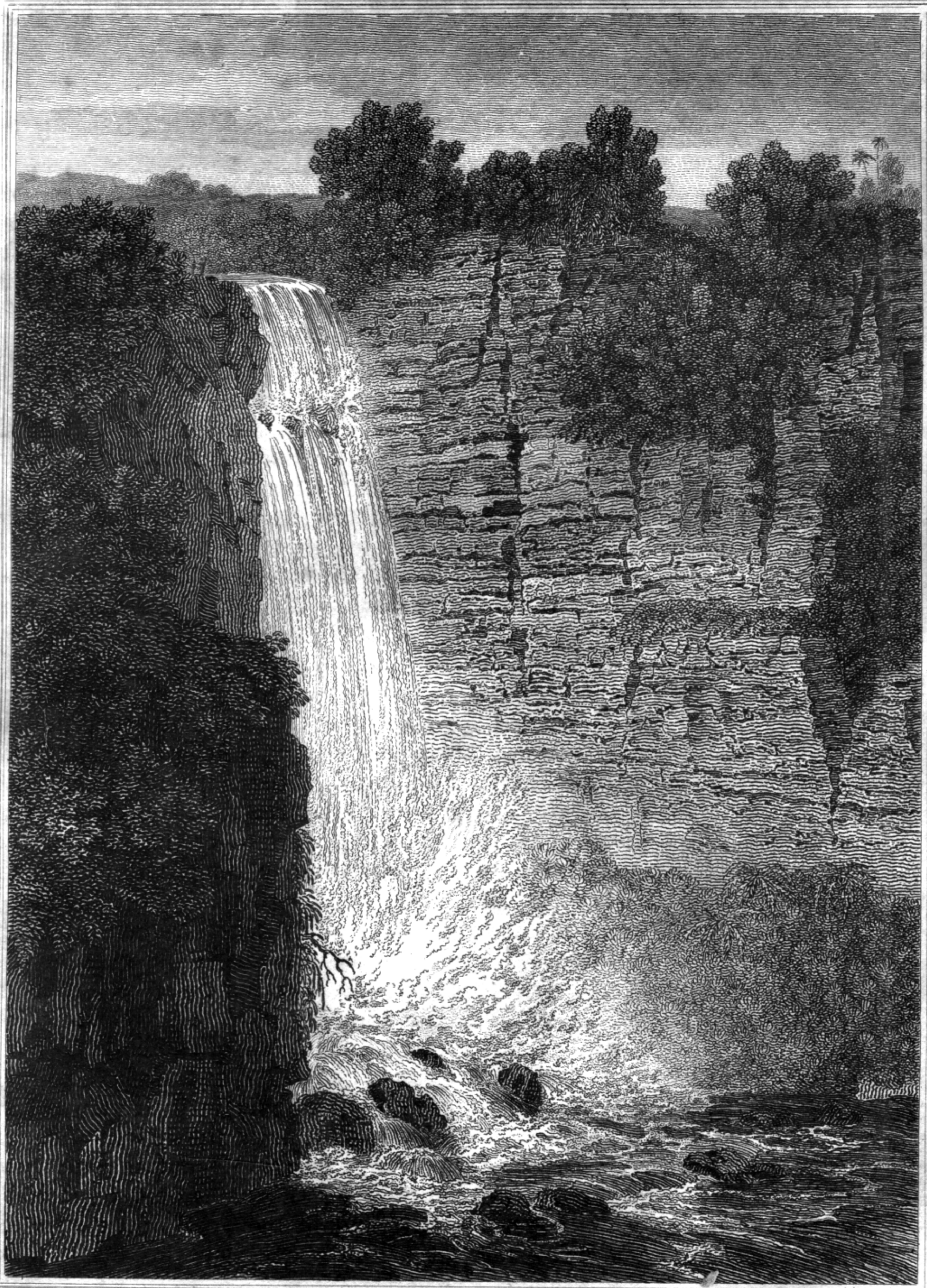
The equality between the absolute forces being established, although contrary to my expectation, it remained to me to examine the relative powers; I mean to say the perceptible power of the part of the pole from which we may be receding, and that of the other which should naturally encrease in proportion as we draw near it, and this I could do with much facility in my journey, by a repetition of observations in places diversely remote from the equator. I made three trials on my way, the third at Porquera, a little town low on the river Magdalene, and three leagues from its mouth; but the success of these experiments was similar to that at Quito. The centre of gravity of the magnetic needle, although moveable, remained always at rest while placed upon the magnetic meridian. I now began to think I had not advanced far enough northward, notwithstanding I was already eleven degrees removed from the equator, which made twenty degrees of difference between the distances of the two opposite poles. At length on my arrival in France, I again repeated the experiment, but with no other success. As I was apprehensive I had not taken all the precautions necessary, it did not satisfy me to proceed in the same manner, I had recourse to another expedient by which I could not fail to perceive the most minute inequality. I suspended a magnetic needle from its center of gravity, with a number of hairs five or six feet in length; this new line would not fall vertically, but incline below a little to the north, if it is true that the boreal magnetic pole to which we are most adjacent, acts with a greater force than its opposite; and a digression of five seconds, or a difference in the power not more than a forty thousandth part of the weight of the needle, would have been manifest to me. But by all the attention I was competent to, I was not able to discern any horizontal tendency which composed itself with the weight, or altered at all the direction; it always appeared to me that the hair hung vertically, and that while the needle pointed north and south, it made not the least effort in the direction of its length, to move towards either of the poles.

It is only since my return, and reflecting more on the subject, that I have at length conceived the reason for the constant perfect equality, which appeared to me so extraordinary, always prevailing between the attractive powers of the two poles. The direction of the magnetic efflux may be compared to the rays of light, whose power

augments or diminishes according as these rays are found united in a greater or lesser space. When the rays are divergent, the force of light decreases; and it continues to do so, at least until, by the falling of it upon a convex glass, or a concave mirror, the divergency is changed to a convergency: then the force of light increases, although received at a greater distance from the luminous body. So it should be with regard to the magnetic virtue. The directions, according to which this power operates, are a species of meridians, and they are at the greatest possible distance from each other in the environs of the equator; it is there, then, the magnetic power should be the weakest. But if we advance into either of the other hemispheres, we are not to imagine that it is the effect of the pole to which we may be approaching, that solely operates to its augmentation; it will be also the effect of the other pole; since these directions are the same as the rays of light, which, from being divergent, become convergent. Those directions which are the farthest separated from each other towards the equator, mutually draw to each other as they go forward. According to this, the force of the austral magnetic pole as felt at Paris, should be sensibly equal to that we should experience from the part of the same pole, if we were at the same distance from the equator on the other side. Thus, generally speaking, and setting aside every consideration upon which one might insist, it matters not on what place of the earth we stand; it signifies nothing, that it is or is not an equal distance from the two poles; we shall always feel the action of one pole as powerfully as the other. It is true, that the force of each pole will be greater or less, but the two will nevertheless be always equal, which also my observations confirm. The resistance of the air will apparently introduce some difference between the two actions, if the magnetic matter creeps upon the surface of the ground, and if it has a long voyage to make through the gross air we breathe. But the inclining of the needles marks out the route taken by the magnetic matter; and this route varies little from a vertical one below, which demonstrates, that the magnetic matter has presently passed through the grosser air, and that its passage through the higher region is made above the denser part of the atmosphere.

My readers will, doubtless, not disapprove, that, in giving him an account of these observations, I have conducted him from Peru to Europe, to instantly carry him back towards the middle of the torrid zone. When I got out of the Cordelier, I had no reason to doubt, that, if the country was low enough, I should find it nearly the same in quality as that on the other side of the double chain of mountains. In the meantime, I was struck at the first view, with the difference in many respects. Plata is of moderate elevation: the mercury in the barometer stood exactly at twenty-five inches; and at Honda at twenty-seven inches and five lines and three-quarters. The upper grounds are all stony, and the country naked. The environs of Plata, which is four or five leagues to the west of the river Magdalene, are tolerably peopled; the rest but thinly; and the places or towns, Honda and Mompox excepted, towards the sea, are of little consideration. Mompox is ornamented with a very fine quay, which they have been obliged to raise high, by reason of the sudden swells to which the river is liable; for, although it is very wide, it rises every year, at the beginning of December, to twelve or thirteen feet. It has its course between rocks, and upon sand, as far as the midway between Honda and Mompox; but it experiences, below, much the same change as the interior of the Cordelier. It rolls its waters over slime; its fine shores are converted below almost entirely into morasses, some of which spread very wide around.

One singular circumstance has frequently drawn my attention throughout all these countries; and that is, all the mountains near which I journeyed, and which are at the



*Drawn by A. de Humboldt.*

*Engraved by George Cooke.*

## *Fall of Tequendama.*

*London. Published by Longman, Hurst, Rees, Orme & Brown, Paternoster Row, Nov. 1. 1812.*

base, and on the outside of the great Cordelier, appear to me to have a different origin from those I had before seen. The beds of different soils, and oftener the rocks, of which they were formed, were not, as were the others, of various inclinations; they were perfectly horizontal; and sometimes I noticed them to correspond with others, in very remote mountains. The most part of these are two or three hundred toises high, and are almost all of them inaccessible; they are frequently cut like walls, which gives one an opportunity of better examining their horizontal beds, of which they show the extremities. The spectacle is not beautiful, but it is rare and singular. When chance has formed them round, and absolutely detached them from others, each of their beds takes the form of a very flat cylinder, or truncated cone, of but little height; and these different beds lying one upon another, and distinguished by their colours and their various sloping outlines, have frequently given to all a form of artificial workmanship, executed with the greatest justness. One of these sort of mountains stands about a league from Honda, upon the bank of the Guah, on the road to Mariquita, which is in view of every traveller; but were I to give a description of it, I should first request all the credit due to a relater who has no interest in departing from the truth, and has his whole life held an untruth in the greatest abhorrence. The mountains in these countries are seen continually to take the appearance of ancient and sumptuous edifices, chapels, domes, castles; sometimes fortifications with lengthened curtains provided with bastions. It is difficult, in noticing these objects, and the correspondent nature of their beds, to doubt that the earth around is not much sunk. It appears those mountains, whose bases were more solidly supported, are left as a species of testimony, or as monuments, which indicate the height of the ancient soil.

I am not acquainted with the environs of Orinoko, but from report; but I know that, in many places there, the mountains are formed with horizontal beds, and that their summits are perfectly level platforms. There is nothing, I believe, found similar to this in Peru, notwithstanding the almost infinite variety there spread around. All the beds incline around every summit, conforming themselves to the declivity of the hills. If, as there is an appearance, this portion of the surface of the earth is sunk from one part to the other of the chain of mountains which, parting south of Popayan, separate the river Magdalene from the Orinoko, the submersion of the Atlantide, of which Plato has spoken, will become much more plausible. Our imagination revolts, when we would represent to ourselves such great alterations made in the exterior form of our globe, the actual state of which appears so permanent; but we are not at liberty, in this regard, entirely to conjecture of most remote times from the present. Great changes have their bounds: they are always succeeded by a state of equilibrium or relative repose, to which they lead, and which must have a certain duration.

The road is even from Plata to Honda, and is crossed by many small rivers which run into the Magdalene; which river receives also other small ones on the opposite side, and principally the Bogota, which passes by Santa-Fe, and joins the Magdalene over against Ibagué, whose situation I have already described. The Bogota is very considerable, even at Santa-Fe. A higher cataract is not to be found in the world, than is formed by it at fifteen or sixteen leagues below this town, and about eight leagues from the Magdalene, at a place called Tequendama, being supposed to be about two hundred fathoms in height.\*

\* The remainder is omitted, as the topics are better illustrated in the following voyage.

A

## VOYAGE TO SOUTH AMERICA,

DESCRIBING AT LARGE

THE SPANISH CITIES, TOWNS, PROVINCES, &c. ON THAT EXTENSIVE  
CONTINENT :

Undertaken, by command of the King of Spain, by DON GEORGE JUAN, and DON ANTONIO DE ULLOA, Captains of the Spanish Navy, Fellows of the Royal Society of London, Members of the Royal Academy at Paris, &c. &c.—Translated from the original Spanish; with Notes and Observations; and an Account of the Brazils.

By JOHN ADAMS, *Esq. of Waltham Abbey; who resided several Years in those Parts.\**

## PREFACE.

IT is certainly a very true, as well as trite observation, that knowledge is the food of the mind; and if this be so, then certainly that ought to have the preference, which is at once equally nutritive and pleasant. On this account, books of voyages and travels have been in such general esteem, and at the same time have been commended by persons of the greatest sagacity, and in the highest reputation for superior understanding. The pleasantness of this kind of reading has attracted many, who had before no relish for learning, and brought them by degrees to enter upon severer inquiries, in order more effectually to gratify that curiosity which this kind of study naturally excites. Men of higher abilities have turned their thoughts on this subject, from the consideration of its real utility. This induced the ingenious Hakluyt to make that noble collection, which procured him the patronage of Queen Elizabeth's ablest minister. This led the elder Thevenot, to enrich the French language with a very copious collection of the same kind. And, not to multiply examples, this made voyages and travels the favourite study of the judicious Locke, who looked upon it as the best method of acquiring those useful and practical lights, that serve most effectually to strengthen, and also to enlarge the human understanding.

It is indeed true, that in respect to this, as well as other branches of sciences, there have been many productions, which for a time have been applauded and admired, and which, notwithstanding, have served rather to mislead, than to instruct men's minds, by a display of specious falsehoods, highly acceptable to such as read merely for amusement. But these authors of marvellous, and very often incredible relations; of strange and surprising adventures; these pompous describers of wonderful curiosities, which men

\* This translation has passed through five Editions.

of more penetration, but of sounder judgments, could never afterwards, though pursuing the same routes, with their utmost diligence discover; quickly lost that credit, which novelty alone gave them; and, being once exploded by sensible judges, gradually sunk, first into the contempt, and then into the oblivion, they deserved.

These books, however, are thus far useful, that they serve to give us a clearer idea of our wants, and a more just notion, than perhaps we could otherwise obtain, of the qualities requisite to render voyages and travels truly worthy of esteem. They demonstrate very fully, that, in the first place, it is of great consequence, to know the characters of the authors we peruse, that we may judge of the credit that is due to their reports; and this as well in point of abilities, as of veracity; for many writers impose on the world, not through any evil intention of deceiving others, but because they have been deceived themselves. They relate falsehoods, but they believe them: we cannot therefore justly accuse them of want of candour; the fault properly to be laid to their charge is credulity. We are most in danger of suffering by those authors, who have either lived in, or passed through countries, that are rarely visited, and into which few are permitted to come. This protects their mistakes for a great length of time; and we know that prescription is a fortress in which error often holds out a long siege. There cannot, therefore, be a more acceptable tribute offered to the republic of letters, than voyages or travels, composed by persons of established reputation for learning, and in equal esteem for their probity. But the value of the present is much enhanced, if these voyages or travels respect countries little known, the coasts of which only, perhaps, have been accidentally visited by seamen, or harassed and plundered by privateers, persons often of suspected faith, and almost always of very limited capacities. Some few exceptions indeed there may be to this general rule; but even in regard to these, there will be necessarily great defects; and, allowing them their highest merit, they can only report truly the little they have seen: and what idea can we form of a Turkey carpet, if we look only at the border, or, it may be, at the selvage?

The authors, whose writings are now offered to the public in an English dress, are men of the most respectable characters, men distinguished for their parts and learning, and yet more for their candour and integrity: men who did not travel through accident, but by choice; and this not barely their own, but approved by authority, and approved because they were known to be equal to the task they undertook; and that task was, the examining every thing they went to see, with all possible care and scrupulous attention, in order to furnish the public with such lights as might be entirely and safely depended on. This was the design which they undertook: this design they executed with the circumspection it deserved; and the punctuality with which they discharged it, has procured them the just returns of favour from their Royal Master, and the applause and approbation of the best judges in their own and other countries. These are circumstances that distinguish, in a very singular degree, the following work; circumstances that, no doubt, will have their proper weight, and which it would be entirely needless for us to enforce, though it would have been inexcusable not to have mentioned them.

There is, however, one other circumstance that deserves particular notice, which is, that, with respect to the characters and abilities of these gentlemen, all does not rest either upon their writings or foreign authorities: they have been in this country; were seen and known by those who were best able to judge of their merit; and, in consequence of that, are both of them members of our Royal society. They continued here some time, conversed indifferently with all sorts of people, and were unanimously allowed to have very extensive views in respect to science; great sagacity; much application;

were

were very assiduous and very accurate in their inquiries, as well as candid and communicative in relation to the discoveries and observations which they had made in their travels;—men of such talents, and such dispositions, must render themselves agreeable every where; much more in a country of liberty, and where, without partiality, we may have leave to say, the sciences are as deeply rooted, and flourish in as high a degree, as in any other in Europe. We will add, that, from a knowledge of their merit and candour, they not only received the greatest civilities, but the most seasonable protection, to which, in some measure, the world is indebted for this very performance, as the reader will learn in the perusal of it; accompanied with those marks of gratitude and respect, which were due to their kind benefactors, more especially the late worthy president of the Royal society, whose memory is justly dear to all who had the honour of being in the least acquainted with him \*; and that humane and polite patron of every useful branch of literature, Earl Stanhope; whose noble qualities reflect honour on his titles, and who inherits the virtues of his illustrious father, one of the bravest men, and one of the most disinterested ministers, this nation could ever boast.

After doing justice to the authors, let us come to the work itself. In pieces of this kind, there is, generally speaking, no part so tedious and unpleasant, at least to the generality of readers, as what regards occurrences at sea; and yet these are allowed to have their utility. In the following sheets, however, though they are found pretty copiously, we shall see them without those defects. If these writers mention the variation of the compass, they explain the nature, inquire into the cause, and show the uses that arise from observing this phenomenon. In this manner, they treat of calms, winds, currents, and other incidents, in so succinct and scientific a method, as at the same time to be very instructive, and not unentertaining. In this respect, we may look upon their narratives as a sort of practical introduction to the art of navigation, which we not only read without disgust, but which, when read with any tolerable attention, will enable us to understand many passages in other writers of voyages, which we should otherwise pass over, as utterly uninteresting and unintelligible. This observation, the reader will find so fully verified, from his own experience, that, I am confident, he will think it no small recommendation to the book; and the more so, because, though very necessary, and much wanted, the difficulties attending it had hitherto, in a great measure, discouraged any such attempt.

The geographical descriptions we have of the country about Carthagená, the isthmus of Darien, the Terra Firma, the countries of Peru and Chili, those watered by the vast river of the Amazons, and, in a word, of the greatest part of South America, are not only perfectly accurate, very methodical, and, in all respects, full, clear, and satisfactory; but also what we greatly wanted, and what we never had, at least in any comparison with what we now have, before this work appeared. These are countries that, from the time of their discovery, have maintained the reputation of being as pleasant, as fertile, and as valuable, as any upon the globe. But though we knew this in general, and, from the Spanish descriptions and histories, were not altogether unacquainted with many particulars relating to them; yet, with respect to any distinct and precise delineation of their several provinces, their divisions and subdivisions, the distribution of mountains, rivers, plains, and other circumstances, with their relations to each other, and comparative values in all respects, they were things not barely unknown, but such as we could never expect to know, from the nature of the Spanish government, with

\* Martin Folkes, Esq. a gentleman not more conspicuous from his extensive knowledge, than amiable for the politeness of his manners, and respectable for his excellent private character.

any degree of certainty. But by the accident of these gentlemen going thither, with no other view than the improvement of knowledge, pursuing that view with the most lively zeal and assiduous application, and founding their reputation upon a plain and candid communication of all that knowledge which, with so much pains and labour, they had acquired, we have now as clear, concise, and correct a representation of these extensive regions as we can possibly desire; such a one, as will answer all the ends of information and instruction, enable us to discover the errors and partialities in former accounts, and prevent our being amused or misled by any erroneous relations for the future, which are certainly circumstances of very great consequence.

The natural history of these countries will be likewise found in the following sheets, in a manner no less perfect and pleasing. These gentlemen went about it in a proper method, and with the talents requisite to the complete accomplishment of their design. They saw things with their own eyes, they enquired carefully, but they took nothing on trust: on the contrary, they discovered, and they have disclosed, many errors of an old standing; exploded various common notions that were ill founded, and have left others in the state in which they ought to be left, as things not thoroughly proved, or absolutely disproved; but which are reserved for further examination. It is chiefly from the natural history that we collect the value and importance of any country, because from thence we learn its produce of every kind. In these sheets we find the greatest care taken in this particular; all the riches of the mineral, vegetable, and animal kingdoms exhibited to our view, their places exactly assigned, their respective natures described, the methods of using, improving, and manufacturing them pointed out; and, exclusive of a multitude of vulgar errors exposed, and mistaken notions refuted, an infinity of new, curious, and important remarks are made, all tending to explain and illustrate the respective subjects. Of these many instances might be given; but that would be to anticipate the reader's pleasure, and arrogate to ourselves the merits of the authors we celebrate.

In respect to the civil history, the world in general was yet more in the dark than as to the natural; knowing much less of the inhabitants than of the commodities of these countries; and in this respect our authors have been as candid, as circumstantial, and as copious, as in the other. They not only acquaint us with the distribution and disposition of the Spanish governments; with the nature, extent, and subordination of those who preside in them; but have also given us a regular plan of their administration, and of the order and method in which justice is dispensed, and the civil policy maintained; the domestic œconomy of the Spaniards, their customs, manner of living, their way of treating the Indians, both subjects and savages, are stated with the same freedom and precision. In like manner they give us a succinct account of the Creoles, that is, such as are descended from the Spaniards, and have been longer or later settled in the Indies, with whatever is peculiar in respect to the genius, humour, virtues, and vices of these people; and more especially the points in which they differ from the native Spaniards. The state and condition of the Indians who live in subjection to the Spaniards, their tempers, employments, good and ill qualities, labours, and diversions. The habitations of the free Indians, their customs, dress, manner of spending their lives, exercises, talents, religion, and method of preserving the remembrance of past transactions, as also the condition of the negroes and mulattoes, whether in the capacity of slaves, domestic servants, or in possession of their freedom, with whatever differences occur in the state of any of these people in different provinces.

But to the English reader, perhaps, nothing in the following pages will be more acceptable, as indeed nothing seems to have been more carefully considered by the authors

than the commercial history of these countries. We find here not only the principal commodities of every province distinctly enumerated, but we are also informed of the particular places where they grow, their different qualities and degrees in value, the method of collecting and curing most part of them, the manufactures of cotton, wool, and other materials, the produce of their mines and different kinds of metal, their potteries, and whatever else is the object of industry and skill: the manner of conveying them from one province to another, the great roads, the inland and coasting navigation, their commerce with Spain, their contraband trade, the manner of introducing, and the great consumption, of European commodities and manufactures, the advantages and disadvantages attending their present regulations, the discoveries that are yet to be made, and the improvements which may still take place in the management of affairs in those countries: the singular inventions of the natives for passing great rivers, transporting their goods by the help of vessels of their own construction, their adroitness in some respects, and their stupidity in others.—From the due consideration of this part of the work, the reader will perceive that in many things we have been imposed upon, in former accounts; and that other things, in a long course of years, are very much changed from what they were. But instead of old errors, we shall find many new truths, and some established from example and experience, that are of too great consequence not to be frequently remembered, and perfectly understood; such as, that countries are not the better, and, which is still stranger, are not the richer, for producing immense quantities of gold and silver, since this prevents their being cultivated, exposes the natives to pass their lives in the severest drudgery, and, after all, makes the digging of metal from the mine little more than drawing water in a sieve; since, in such countries, riches disappear almost as soon as they are revealed. Industry alone, in the old world and in the new, has the power of acquiring and preserving wealth, and this, too, without the trouble of mining. Besides, though not insisted upon, it will be evidently seen, that severity in government, and superstition in religion, subvert both liberty and morals, and are consequently in all respects destructive of the happiness of mankind.

The account given by our authors, of the missions which the Jesuits have established in Paraguay, is as interesting as it is entertaining, and may be very justly considered as one of the most curious and best written parts of the whole performance; since, at the same time that it breathes all the deference and respect possible for the fathers, it informs us of a great variety of facts of so much the more consequence, as, at the time it was written, nobody could foresee that the courts of Madrid and Lisbon would make so thorough a change as they have done in their sentiments in regard to this order; and therefore the informations these gentlemen give us are the more to be relied on. They shew us in what manner, and under what specious pretences the Jesuits acquired a kind of independent possession of so large a tract of country, and, except their annual tribute, an almost absolute dominion over an immense number of people. They acquaint us that there is a civil government in every village, after the model of the Spanish towns; but the magistrates are chosen by the people, subject only to the approbation of the father Jesuit, who resides in and, in reality, governs the village. We learn from them, that the Jesuits draw from the people all the commodities and manufactures that are fit for foreign commerce, which are vended by a commissary of their appointing, and the returns in European commodities made to and distributed by them at their pleasure; they tell us, that the church in every village is spacious, and elegantly adorned; that, though they are styled villages, they are in effect large towns, and the houses in them neat, commodious, and, in comparison of the Spaniards', very well furnished. We learn

from them that, under a pretence of the excursions of the Portuguese, who used to seize these Indians and make them work in their mines, and of the savage Indians who surrounded them in a manner on all sides, the fathers have taught them the use of arms, make them spend their holidays in military exercises, have a large body of well-disciplined troops, magazines well furnished with military stores, together with mills and other necessary machines for making their own gunpowder. They likewise let us know that, to prevent the manners of their disciples from being corrupted, the Jesuits exclude them entirely from all communication with strangers, whether Europeans or Indians, and suffer none to enter into their missions, who may report either the strength or the weakness of their condition, or penetrate into the mysteries of their policy.

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## PART I.

ACCOUNT OF CARTHAGENA, PANAMA, &c. AND OF THE PROVINCE OF QUITO.

### BOOK I.

*Reasons for this Voyage ; Navigation from the Bay of Cadiz to Carthagena in America, and a Description of the latter.*

CHAP. I. — *Motives of this Voyage to South America, with Remarks on the Navigation between Cadiz and Carthagena.*

THE heart of man is naturally inclined to attempt things, the advantages of which appear to increase in proportion to the difficulties which attend them. It spares no pains, it fears no danger in attaining them ; and instead of being diverted from its purpose, is animated with fresh vigour by opposition. The glory inseparable from arduous enterprises is a powerful incentive, which raises the mind above itself ; the hope of advantages determines the will, diminishes dangers, alleviates hardships, and levels obstacles, which otherwise would appear unsurmountable. Desire and resolution are not, however, always sufficient to ensure success ; and the best-concerted measures are not always prosperous. Divine Providence, whose over-ruling and incomprehensible determinations direct the course of human actions, seems to have prescribed certain limits, beyond which all our attempts are vain. The causes his infinite wisdom has thought proper to conceal from us, and the result of such a conduct, is rather an object of our reverence than speculation. The knowledge of the bounds of human understanding, a discreet amusement and exercise of our talents for the demonstration of truths which are only to be attained by a continual and extensive study, which rewards the mind with tranquillity and pleasure, are advantages worthy of our highest esteem, and objects which cannot be too much recommended. In all times the desire of enlightening others by some new discovery has roused the industry of man, and engaged him in laborious researches, and by that means proved the principal source of the improvement of the sciences.

Things which have long baffled sagacity and application, have sometimes been discovered by chance. The firmest resolution has often been discouraged by the insuper-

able precipices which, in appearance, encircle his investigation. The reason is, because the obstacles are painted, by the imagination, in the most lively colours; but the methods of surmounting them escape our attention; till, smoothed by labour and application, a more easy passage is discovered.

Among the discoveries mentioned in history, whether owing to accident or reflection, that of the Indies is not the least advantageous. These parts were for many ages unknown to the Europeans, or, at least, the remembrance of them was buried in oblivion. They were lost through a long succession of time, and disfigured by the confusion and darkness in which they were found immersed. At length the happy æra arrived, when industry, assisted by resolution, was to remove all the difficulties exaggerated by ignorance. This is the epocha which distinguished the reign, in many other respects so glorious, of Ferdinand of Arragon, and Isabella of Castile. Reason and experience at once exploded all the ideas of rashness and ridicule which had hitherto prevailed. It seems as if Providence permitted the refusal of other nations to augment the glory of our own; and to reward the zeal of our sovereigns, who countenanced this important enterprise; the prudence of their subjects in the conduct of it, and the religious end proposed by both. I mentioned accident or reflection, being not yet convinced whether the confidence with which Christopher Columbus maintained, that westward there were lands undiscovered, was the result of his knowledge in cosmography and experience in navigation, or whether it was founded on the information of a pilot who had actually discovered them, having been driven on the coasts by stress of weather; and who, in return for the kind reception he had met with at Columbus's house, delivered to him in his last moments the papers and charts relating to them.

The prodigious magnitude of this continent; the multitude and extent of its provinces; the variety of its climates, products, and curious particulars; and, lastly, the distance and difficulty of one part communicating with another, and especially with Europe, have been the cause, that America, though discovered and inhabited in its principal parts by Europeans, is but imperfectly known by them; and at the same time kept them totally ignorant of many things, which would greatly contribute to give a more perfect idea of so considerable a part of our globe. But though investigations of this kind are worthy the attention of a great prince, and the studies of the most piercing genius among his subjects, yet this was not the principal intention of our voyage. His Majesty's wise resolution of sending us to this continent was principally owing to a more elevated and important design. The literary world are no strangers to the celebrated question that has lately produced so many treatises on the figure and magnitude of the earth which had hitherto been thought perfectly spherical. The proximity of later observations had given rise to two opposite opinions among philosophers. Both supposed it to be elliptical; but one affirmed its transverse diameter was that of the poles, and the other, that it was that of the equator. The solution of this problem, in which not only geography and cosmography are interested, but also navigation, astronomy, and other arts and sciences of public utility, was what gave rise to our expedition. Who would have imagined that these countries, lately discovered, would have proved the means of our attaining a perfect knowledge of the old world; and that, if the former owed its discovery to the latter, it would make it ample amends by determining its real figure, which had hitherto been unknown or uncontroverted? who, I say, would have suspected that the sciences should in that country meet with treasures not less valuable than the gold of its mines, which has so greatly enriched other countries? How many difficulties were to be surmounted in the execution! What a series of obstacles were to be overcome in such long operations, flowing from the inclemency of the climates; the disadvan-

disadvantageous situation of the places where they were to be made, and in fine, from the very nature of the enterprise! All these circumstances infinitely heighten the glory of the monarch, under whose auspices the enterprise has been so happily accomplished. This discovery was reserved for the present age, and for the two Spanish monarchs, the late Philip V. and Ferdinand VI. The former caused the enterprise to be carried into execution, the latter honoured it with his countenance, and ordered the narrative of it to be published; not only for the information and instruction of his own subjects, but also for those of other nations, to whom these accounts will prove equally advantageous. And, that this narrative may be the more instructive, we shall introduce the particular circumstances which originally gave occasion to our voyage, and were in a manner the basis and rule of the other enterprises, which will be measured in the sequel, each in its proper order.

The attention of the Royal Academy of Sciences at Paris for the improvement of human knowledge, and its continual ardour to discover and apply the best methods for that noble end, could not sit down contented under the uncertainty concerning the real figure and magnitude of the earth, the investigation of which had, for several years past, employed the most eminent geniuses of Europe. This learned assembly represented to their sovereign the necessity of determining a point, the exact decision of which was of such great moment, especially to geography and navigation; and at the same time laid before him a method of doing it. This was, to measure some degree of the meridian near the equator; and (as was done with great propriety after our departure) by measuring other degrees under the polar circle, in order to form a judgment of the different parts of its circumference, by their equality or inequality, and from thence to determine its magnitude and figure. No country seemed so proper for this as the province of Quito in South America. The other countries under the equinoctial line, both in Asia and Africa, were either inhabited by savages, or not of an extent sufficient for these operations; so that, after the most mature reflection, that of Quito was judged to be the only place adapted to the plan in question.

His most Christian Majesty Lewis XV. applied, by his ministers, to King Philip, that some members of his Royal academy might pass over to Quito, in order to make there the necessary observations; at the same time shewing the intention and universal advantage of them, and how very remote they were from any thing which tends to awaken a political jealousy. His Majesty, persuaded of the candour of this application, and desirous of concurring in so noble a design, as far as was consistent with the dignity of his crown and the safety of his subjects, referred the matter to the council of the Indies; and, on their favourable report, the licence was granted, with all the necessary recommendations and assurances of the royal protection to the persons who were to repair to America to make these observations. The patents, which were made out for them on the 14th and 20th of August 1734, contained the most precise orders to the viceroys, governors, &c. in the countries through which they were to pass, to aid and assist them, to shew them all friendship and civility, and to see that no persons exacted of them for their carriages or labour more than the current price; to which His Majesty was pleased to add the highest proofs of his royal munificence, and of his zeal for the advancement of the sciences, and esteem for their professors.

This general regard of His Majesty was followed by some measures, particularly designed to promote the honour of the Spanish nation, and to give his own subjects a taste for the same sciences. He appointed two officers of his navy, well skilled in mathematics, to join in the observations which were to be made, in order to give them

them a great dignity and a more extensive advantage; and that the Spaniards might owe only to themselves the fruits and improvements expected from them. His Majesty also conceived that the French academicians, having these officers in their company, would be more regarded by the natives, and, in the places through which they were to pass, all umbrage would be thus removed from persons who might not be sufficiently acquainted with the nature of the design. Accordingly the commanders and directors of the academy of the Royal Guardas Marinas received orders to recommend two persons, whose dispositions not only promised a perfect harmony and correspondence with the French academicians, but who were capable of making, equally with them, the experiments and operations that might be necessary in the course of the enterprise.

Don George Juan, commander of Aliaga, of the order of Malta, sub-brigadier to the Guardas Marinas, equally distinguished by his application to the mathematics, and his faithful services to the crown, was, with myself, proposed to His Majesty, as qualified to contribute to the success of such an enterprise. We had commissions given us as lieutenants of men of war, and, with all necessary instructions, were ordered to embark on board two ships fitting out at Cadiz, for carrying to Carthagená, and thence to Porto Bello, the Marquis de Villa García, appointed viceroy of Peru. About the same time, the French academicians were to sail in a ship of their nation, and, by way of St. Domingo, to join us at Carthagená, in order to proceed from thence in company.

The two men of war, on board of which we had been ordered, were the *Conquistador* of sixty-four guns, and the *Incendio* of fifty; the former commanded by Don Francisco de Liano, of the order of Malta, commodore; and the latter by Don Augustin de Iturriaga, by whom it was agreed that Don George Juan should go in the *Conquistador*, and myself in the *Incendio*. We sailed from Cadiz bay, May 26, 1735; but, the wind shifting, we were obliged to put back and come to an anchor about half a league without Las Puercas.

On the 28th, the wind coming about to north-east, we again set sail, and continued our course in the manner related in the two following journals:

*Journal of Don George Juan, on board the Conquistador.*

THE 2d of June 1735, saw the Canary Islands; and the winds, which are usually very variable in this passage, were either north-west by north, or north-east. Don George Juan, by his reckoning, found the difference of longitude between Cadiz and the Pico of Teneriffe  $10^{\circ} 30'$ .

According to Father Feuillée's observations, made at Loratava, six minutes and a half east of the Pico, the difference of the longitude betwixt the latter and the observatory at Paris is  $18^{\circ} 51'$ . Subtracting therefore  $8^{\circ} 27'$ , which, according to the *Connaissance des Temps*, is the difference of longitude between that observatory and Cadiz; the difference of longitude between that city and the Pico is  $10^{\circ} 24'$ , and consequently differs six minutes from Don George's reckoning.

On the 7th we lost sight of the Canaries, and continued our course towards Martinico, steering south between forty-two and forty-five degrees westerly, encreasing the angle every day, till near the island, we steered due west under its parallel, and on the 26th of June discovered Martinico and Dominica.

The difference of longitude between Cadiz and Martinico appeared from our reckoning to be  $59^{\circ} 55'$ , that is,  $3^{\circ} 55'$  more than the chart of Antonio de Matos

makes it; which is however generally followed in this voyage. According to the observations of Father Laval, made at Martinico, the difference of longitude is  $55^{\circ} 8' 45''$ ; according to those of Father Feuillée,  $55^{\circ} 19'$ . This error in a great measure proceeds from a want of accuracy in the log-line; for had the pilot of the Conquistador, who found the same defect in his calculations, made the distance between the knots of the log-line thirty English feet, instead of forty-seven and a half, the difference of longitude, by account, would have been only fifty-seven degrees. This error in marking the log-line is common both to the pilots of Spain and other nations; and this, like many other faults in navigation, remains uncorrected for want of attention.

The distance between the knots on the log-line should contain  $\frac{1}{120}$  of a mile, supposing the glass to run exactly half a minute: and though all agree in this respect, yet not in the true length of the mile, which ought to be determined by the most exact mensurations; as those of M. Cassini in France, ours in the province of Quito, or those of M. Maupertuis in Lapland. If the length of the degree be computed according to M. Cassini's measures, 57,060 toises, a minute or geographical mile will contain 951 toises, or 5,706 royal feet, of which  $\frac{1}{120}$  is nearly equal to forty-seven feet six inches and a half; and as the Paris foot is to that of London as 16 to 15\*; this, when reduced to English measure, makes nearly fifty feet eight inches and a quarter. And this is the true distance between each knot on the log-line.

This mensuration, which should have been hitherto the rule observed, is not exact, when compared to that which has been found from investigating the figure of the earth, which is discovered to be very different from what it has been imagined; so that it is not surprising that there should be found considerable differences in the nautical calculations.

*The Author's Journal, on board the Incendio.*

HAVING set sail on the same day, namely, the 28th of May 1735; and steered south, between fifty-two and fifty-six degrees westerly, we perceived on June 2d, about six in the evening, the island of Savages, one of the Canaries; and on the 3d we saw Teneriffe. I found the difference of longitude between Cadiz and Naga-Point to be  $11^{\circ} 6'$ , which agrees with the English and Dutch charts, but differs a little from the true longitude determined by Father Feuillée at Loratava, in the same island of Teneriffe.

On the 4th, we had sight of the islands of Palma, Gomera, and Fer; but again lost sight of them on the fifth. On the 29th about noon, we made Martinico, and continuing our course, passed between that island and Dominica. The difference of longitude between Martinico and Cadiz bay, according to my reckoning, was  $57^{\circ} 5'$ , one degree more than San Telmo's chart makes it. But it is proper to observe, that in order to estimate my course, and avoid the danger of finding a great difference at making land, I followed two different calculations, one according to the measures commonly given by pilots to the distance between the knots on the log-line, of forty-seven English feet and a half, and the other by reducing them to forty-seven

\* According to the late regulation of the Royal Society of London, and the measures sent by it to the Academy of Sciences at Paris, and with which I was favoured by Martin Folkes, Esq. the worthy president of that society, the Paris foot is to that of London as 864 to 811, which shews how erroneous these are published by Father Tofca †.

† The Paris foot is divided into twelve inches, and each inch into twelve lines; wherefore, if we suppose each line to be divided in 310 parts, the Paris foot will be 1440 parts, the London, 1350.

These proportions were settled by the Royal Academy of Sciences at Paris, in their treatise of the figure and magnitude of the earth, Part xi. Chap. 5, which shews the erroneousness of the above. A.

royal feet: for though in strictness, it ought to have been forty-seven and a half of the latter, the difference being but small, I thought it best to omit the half foot, that my reckoning might be before the ship. According to the first method, the difference of longitude between Cadiz and this island was between sixty and sixty-one degrees, which nearly agrees with the journal of Don George.

From Martinico we continued our course towards Curacao, which we had sight of July 3d. The difference of meridians between that and Martinico, Don George Juan found to be  $6^{\circ} 49'$ , whereas I made it  $7^{\circ} 56'$ . The cause of this disagreement was, that finding a sensible difference in the latitudes, I regulated myself by the currents, imagining, according to the opinion of all our navigators, that they set to the north-west; which Don George did not, and by that means his reckoning answered to the real distance betwixt these two islands, and mine was erroneous. But that the water was in motion, is not to be questioned: for in all the latitudes from June 30th, to July 3d, those found by observation exceeded those by account ten minutes thirteen seconds, and even fifteen minutes; a sufficient proof that the currents run directly north and not north-west.

From the 2d, at six in the morning, till the day we made Curacao and Uruba, we had shallow water, of a greenish colour, which continued till about half past seven in the evening, when we entered the gulf.

Our course from Martinico to Curacao, during the two first days, was south eighty-one westerly; and the two last south sixty-four degrees westerly. From thence to Carthagena we kept at a proper distance from the coast, so as to distinguish its most noted capes, and inhabited places.

On the 5th we discovered the mountains of St. Martha, so well known for their height, and being all covered with snow; and at six in the morning we crossed at the current of thick water, which issues with prodigious rapidity from the river De la Magdalena, and extends several leagues into the sea. About six in the evening found ourselves to the northward of Cape de Canoa, where we lay to, and continued till seven in the morning, when we set all our sails, which at eight in the evening brought us under fort Boca Chica, where we came to an anchor in thirty-four fathom water, the bottom muddy. On the 8th we endeavoured to get into Carthagena bay, but could not before the 9th securely moor our ship.

During our passage betwixt the Canary islands, we had faint and variable winds, with some short calms; but, after we had lost sight of them, the gales increased upon us, but moderate, and continued in this manner till we arrived within one hundred and seventy or one hundred and eighty leagues of Martinico, when we had squalls accompanied with violent rains. After passing the Canaries, at about twenty leagues from these islands, we had the wind at north-west, and at the distance of near eighty leagues it shifted to east and east-north-east. We had nearly the same in the middle of the Atlantic ocean, and afterwards the wind came about to the east, with different degrees of velocity; but the variation was not such as to occasion any inconveniency.

These are the winds generally met with in this voyage. Sometimes it veers away to the west and west-north-west, though it is very seldom known to continue on these points. Sometimes long calms intervene, which lengthen the voyage beyond the usual time. All this depends on the seasons; and according to the time of the voyage, the weather and winds are more or less favourable. The winds above-mentioned are the most general; and the best time for making use of them, as they then are settled, is when the sun approaches near the equator in his return from the tropic of

**Capricorn** : for his approach to the autumnal equinox is the time when the calms most prevail.

From the islands of Martinico and Dominica to that of Curacao and the coast of Carthagená, the winds continued the same as in the ocean, though more variable, and the weather less fair. I have said that about one hundred and seventy leagues before we reached Martinico the winds were interrupted by squalls ; and these are more common beyond those islands, and are immediately succeeded by short calms ; after which the wind freshens again for half an hour, an hour, two hours, and sometimes longer. From what quarter these tornadoes or squalls proceed, I cannot positively affirm ; but it is certain, that when they are over, the wind begins to blow from the same point as before, and nearly with the same force. And here it may be of use to observe, that on any appearance of these squalls in the atmosphere, the utmost expedition must be used in getting the ship in readiness, their impetuosity being so sudden as to admit of no time for preparatives ; and therefore the least negligence may be attended with the most fatal consequences.

In the voyage from Cadiz to the Canaries, in some parts, though the winds are otherwise moderate, the sea is agitated by those from the north and north-west sometimes in large and long waves ; sometimes in small but more frequent ones, which happens when the wind blows strongly along the coast of France and Spain ; for in the ocean the winds are so mild, that the motion of the ship is hardly perceived, which renders the passage extremely quiet and agreeable. Within the windward islands, and even before we reach them, in the parts where these terrible squalls prevail, the sea is agitated in proportion to their violence and duration ; but no sooner is the wind abated, than the water becomes again clear and smooth.

The atmosphere of the ocean answers to the calmness of the winds and sea, so that it is very seldom an observation cannot be taken, either from the sun's being obscured, or the haziness of the horizon. This is to be understood of the fair season ; for otherwise here are dark days, when the air is filled with vapours, and the horizon very hazy. At all times it is seen filled with white and towering clouds, embellishing the sky with a variety of figures and ramifications, which amuse the eye, tired with being so long confined to two such similar objects as the sea and sky. Within the windward islands the variety is still greater, the quantity of vapours profusely exhaled, filling it in such a manner, that sometimes nothing but clouds are to be seen, though part of these are gradually dispersed by the heat of the sun, so that some parts are quite clear, others obscure ; but a general darkness during the whole day is never known.

It is well known and allowed, that through the whole extent of the ocean, not the least current is perceivable, till we arrive within the islands, where in some parts they are so strong and irregular, that without the greatest vigilance and precaution, a ship will be in great danger among this archipelago. This subject, together with the winds peculiar to this coast, shall hereafter be considered more at large.

In the track to Martinico and Dominica there is a space where the water, by its white colour, visibly distinguishes itself from the rest of the ocean. Don George, by his estimate, found this space to terminate one hundred leagues from Martinico ; whereas, according to my reckoning, it reached only to within one hundred and eight leagues ; it may therefore, at a medium, be placed at one hundred and four. This small difference doubtless proceeds from the difficulty of discovering where this whitish colour of the water terminates, towards Martinico. It begins at about one hundred and forty leagues from that island, which must be understood of the place where the different colours of the water are evident ; for if we reckon from where it begins to be just discernible,

cernible, the distance is not less than one hundred and eighty leagues. This track of water is a certain mark for directing one's course; because, after leaving it, we have the satisfaction of knowing the remaining distance; it is not delineated on any map, except the new one lately published in France; though it would doubtless be of great use in them all.

Nothing farther remains, than to give an account of the variation of the needle in different parts in which we found the ship by her latitude and longitude; a point of the utmost consequence in navigation, not only with regard to the general advantage to mariners in knowing the number of degrees intercepted between the magnetic and true north of the world, but also as, by repeated observations of this kind, the longitude may be found, and we may know within a degree, or a degree and a half, the real place of the ship; and this is the nearest approximation to which this has been carried by those who revived it at the beginning of this century. Among these the chief was that celebrated Englishman, Dr. Edmund Halley: in emulation of whom, many others of the same nation, as also several Frenchmen, applied themselves to the improvement of it. We already enjoy the fruits of their labours in the variation charts lately published, though they are principally useful only in long voyages; where the difference of two or of even three degrees is not accounted a considerable error, when there is a certainty that it cannot exceed that number. This system, though new with regard to the use it is now applied to, is far from being so among the Spaniards and Portuguese, very plain vestiges of it remaining in their old treatises of navigation. Manuel de Figueyredo, cosmographer to the King of Portugal, in his *Hydrographia*, or *Examin de Pilotos*, printed at Lisbon in 1608, chap. ix. and x. proposes a method for finding, from the variation of the needle, the distance run in sailing east and west. And Don Lazaro de Flores, in his *Arte de Navegar*, printed in 1672, chap. i. part ii. quotes this author, as an authority to confirm the same remark made by himself; adding (chap. ix.) that the Portuguese, in all their regulations concerning navigation, recommend it as a certain method. It must, however, be acknowledged, that those ancient writers have not handled this point with the penetration and accuracy of the English and French, assisted by a greater number of more recent observations. And that the observations made in this voyage may be of the most general use, I shall insert them in the two following tables; previously informing the reader, that the longitudes corresponding with each are true, the error of the course, with regard to the difference of meridians, being corrected from the observations of the fathers Laval and Feuillée:—

*Variations observed by Don George Juan, the Longitude being reckoned west from Cadiz.*

Deg. of Lat.	Deg. of Long.	Variation observed.	Variation by the Chart.	Difference.
27 30	11 00	8 00 W.	9 00 W.	1 00
25 30	14 30	6 20	7 20	1 00
24 00	17 00	4 30	6 00	1 30
23 20	18 30	3 30	5 00	1 00
22 30	20 00	2 30	4 30	2 00
21 50	22 00	1 30	4 00	2 30
21 35	26 00	0 30	3 00	2 30
16 20	43 00	4 00 E.	2 30 E.	2 00
15 40	45 00	5 00	3 20	1 40
Off Martinico		6 00	5 00	1 00

*Variations observed by the Author, the Longitude being reckoned from the former Meridian.*

Deg. of Lat.	Deg. of Long.	Variation observed.	Variation by the Chart.	Difference.
36 20	00 25	9 30 W.	13 00 W.	3 30
31 23	08 22	7 00	10 30	3 30
30 11	10 21	6 00	9 30	3 30
26 57	14 54	4 00	7 00	3 00
25 52	15 59	3 40	6 30	2 50
16 28	43 46	0 30 E.	2 00 E.	1 30
15 20	47 32	2 30	4 00	1 30
Off Cape de la Vela		6 00	7 30	1 30

To the above observations on the variation of the needle, compared with those on the variation chart, first published by the great Dr. Halley in 1700, and corrected in 1744, from other observations and journals by Messrs. Montaine and Dodson of London, I shall add some reflections, in order to expose the negligence in constructing the magnetic needles. 1. It appears that the variations observed by Don George Juan do not agree with mine, which is not to be attributed to a defect in the observations. This is sufficiently evident from comparing them. The differences between those observed by Don George and those on the chart, are nearly every where uniform; the most considerable being a degree and fifty minutes; one making the variation  $2^{\circ} 30'$ , and the other a degree only. This probably arose from the motion of the ship, which hinders the needle from being entirely at rest; or from the disk of the sun, by reason of intervening vapours, not being accurately determined, or some other unavoidable accident; the error, when the difference is less than a degree, being scarcely perceivable in these observations. Thus, on a medium, the rational conclusion is, that the needle used in these observations varied a degree and forty minutes less than those when the map was constructed.

The same uniformity appears in the differences between my observations and the chart; but it must be observed, that having used two different needles, the particulars of each nearly correspond, so that between the five first, the greatest difference is of forty minutes, which intervene between the smallest difference of  $2^{\circ} 50'$ , and the greatest of  $3^{\circ} 30'$ . Hence, taking the medium between both, the difference between my observations and the chart will be  $3^{\circ} 16'$ , the latter being so much less than the former. The three last do not want this operation, the difference of  $1^{\circ} 30'$  being equal in all, and the variations resulting from these observations are also less than those delineated on the map; the variation having passed to a different species; namely, from north-west to north-east. This demonstrates, that the first needle I made use of, whether it had been ill touched, or the steel not accurately placed, varied  $1^{\circ} 30'$  westerly less than that used by Don George Juan; and as this officer continued his observations to the end of the voyage with the same needle, the difference, which at first was negative, on the variation changing its denomination became positive; and from my changing instruments, the difference on my side continued always negative. The reason of this is, that the difference of the five first observations proceeded less from a real difference in the variation, than from the poles of the needle, which was so far from answering exactly with the meridian-line on the compass-card, that it inclined towards the north-west; the contrary happened in the second compass made use of, its inclination being towards the north-east; consequently, whatever the angle of that inclination was, it occasioned a proportionate diminution in the variation of a contrary species.

These

These observations, thus compared, shew the errors to which navigators are liable, for want of attention in making choice of proper needles, which they should be careful to procure, not only well made and exact, but also strictly tried with regard to their inclination to the true meridian, before they venture to depend upon them in any voyage. In this point, Spain is guilty of a notorious neglect, notwithstanding it is evidently the source of a thousand dangerous errors; for a pilot, in correcting the course he has steered, in making use of a compass whose variation is different from the true, will consequently find a difference between the latitude by account and the latitude observed; and to make the necessary equation according to the rules commonly received in sailing on points near the meridian, he must either increase or diminish the distance, till it agrees with the latitude, whereas in this case the principal error proceeded from the rhomb. The same thing happens in parts where it is apprehended there may be currents; which often occur in sailing when the latitude by account, and that by observation, disagree; though in reality the water has no motion, the difference proceeding entirely from making use of another variation in the course, than that of the needle by which the ship is steered; as was the case with me in sailing from Martinico to Curacao, and likewise of all the artists on board the ship. Another error incident to navigators, though not so much their own, is to steer the ship by one needle, and observe the variation by another; for though they have been compared, and their differences carefully observed, their motions being unequal, though at the beginning of the voyage the difference was only a certain number of degrees, the continual friction of the former on the pivot, renders the point of the needle, on which it is suspended, more dull than the other, which is only hung when they make observations, being at all other times kept with the greatest care; and hence proceeds the change observable in their differences. In order to remedy this evil, all needles intended to be used at sea should be equally proper for observing the variation; and the observation made with those before placed in the binnacle; and, to improve the charts of variation, should be touched in the same manner, and adjusted to the meridian of place, where the exact variation is known. Thus observations made in the same places by different ships, would not be found so considerably to vary; unless the interval of time between two observations be such as to render sensible that difference in the variation, which has been observed for many years past, and is allowed of by all nations.

These are the causes of the manifest difference between needles; there may be others, but this is not the proper place for enumerating them.

## CHAP. II. — *Description of Carthagena.*

ON the 9th of July 1735, we landed, and Don George Juan and myself immediately waited on the governor of the place. We were informed that the French academicians were not yet arrived, nor was there any advice of them. Upon this information, and being by our instructions obliged to wait for them, we agreed to make the best use of our time; but were unhappily destitute of instruments, those ordered by His Majesty from Paris and London not being finished when we left Cadiz, but were forwarded to us at Quito soon after our arrival. We, however, fortunately heard that there were some in the city, formerly belonging to Brigadier Don Juan de Herrera, engineer of Carthagena; by these we were enabled to make observations on the latitude, longitude, and variation of the needle. We also drew plans of the place and the bay from those of this engineer, with the necessary additions and alterations.

In these operations we employed ourselves till the middle of November 1735, impatient at the delay of the French academicians. At length, on the 15th, a French armed vessel came to an anchor, during the night, under Boca Chica; and to our great satisfaction we learned, that the long-expected gentlemen were on board. On the 16th we visited them, and were received with all imaginable politeness by M. de Ricour, captain of a man of war, and king's lieutenant of Guarico, in the island of St. Domingo; and Messrs. Godin, Bouguer, and De la Condamine, academicians, who were accompanied by Messrs. Jussieu, botanist; Seniergues, surgeon; Verguin, Couplet, and Desfordonais, associates; Morenvile, draughtsman; and Hugot, clock-maker.

Our intention being to go to the equator with all possible expedition, nothing remained but to fix on the most convenient and expeditious route to Quito. Having agreed to go by the way of Porto Bello, Panama, and Guayaquil, we prepared to sail; in the meantime, by help of the instruments brought by the academicians, we repeated our observations on the latitude, weight of the air, and the variation of the needle; the result of which will appear in the following description:—

The city of Carthagena stands in  $10^{\circ} 25' 48\frac{1}{2}''$  north latitude; and in the longitude of  $282^{\circ} 28' 36''$  from the meridian of Paris; and  $301^{\circ} 19' 36''$  from the meridian of Pico Teneriffe; as appeared from our observations. The variation of the needle we also, from several observations, found to be eight degrees easterly.

The bay, and the country, before called Calamari, were discovered in 1502 by Rodrigo de Bastidas; and in 1504, Juan de la Cosa and Christopher Guerra began the war against the Indian inhabitants, from whom they met with greater resistance than they expected; those Indians being a martial people, and valour so natural to them, that even the women voluntarily shared in the fatigues and dangers of the war. Their usual arms were arrows, which they poisoned with the juice of certain herbs; whence the slightest wounds were mortal. These were succeeded by Alonso de Ojeda, who some years after landed in the country, attended by the same Juan de la Cosa, his chief pilot, and Americo Vesputio, a celebrated geographer of those times; but made no greater progress than the others, though he had several encounters with the Indians. Nor was Gregorio Hernandez de Oviedo more fortunate. But, at length, the conquest of the Indians was accomplished by Don Pedro de Heredia, who, after gaining several victories over them, peopled the city in 1533, under the title of a government.

The advantageous situation of Carthagena, the extent and security of its bay, and the great share it attained of the commerce of that southern continent, soon caused it to be erected into an episcopal see. The same circumstances contributed to its preservation and increase, as the most esteemed settlement and staple of the Spaniards; but at the same time they drew on it the hostilities of foreigners, who, thirsting after its riches, or induced by the importance of the place, have several times invaded, taken, and plundered it.

The first invasion was made soon after its establishment in 1544, by certain French adventurers, conducted by a Corsican pilot, who, having spent some time there, gave them an account of its situation, and the avenues leading to it, with every other particular necessary to the successful conduct of their enterprise; which they accordingly effected. The second invader was Francis Drake, termed the destroyer of the new conquests, who, after giving it up to pillage, set it on fire, and laid half the place in ashes; and its fatal destruction was only prevented by a ransom of a hundred and twenty thousand silver ducats paid him by the neighbouring colonies.

It was invaded a third time in 1597, by the French, commanded by M. de Pointis, who came before the place with a large armament, consisting partly of Flibustiers, little

better than pirates: but, as subjects to the King of France, were protected by that monarch. After obliging the fort of Boca Chica to surrender, whereby the entrance of the bay was laid open, he landed his men, and besieged Fort Lazaro, which was followed by the surrender of the city. But the capitulation was no security against the rage of avarice, which had consigned it to pillage.

This easy conquest has by some been attributed to a private correspondence between the governor and Pointis; and what increases the suspicion is, that he embarked on board the French squadron at its departure, together with all his treasures and effects, none of which had shared in the general calamity.

The city is situated on a sandy island, which forming a narrow passage on the south-west opens a communication with that part called Tierra Bomba, as far as Boca Chica. The neck of land which now joins them, was formerly the entrance of the bay; but it having been closed up by orders from Madrid, Boca Chica became the only entrance; and this also has been filled up since the attempt of the English in 1741, who, having made themselves masters of the forts which defended it, entered the bay with an intent of taking the city; but they miscarried in their attempt, and retired with considerable loss. This event caused orders to be dispatched for opening the old entrance, by which all ships now enter the bay. On the north side the land is so narrow, that, before the wall was begun, the distance from sea to sea was only thirty-five toises; but afterwards enlarging, forms another island on this side, and the whole city is, excepting these two places, which are very narrow, entirely surrounded by the sea. Eastward it communicates, by means of a wooden bridge, with a large suburb called Xexemani, built on another island, which has also a communication with the continent by means of another wooden bridge. The fortifications, both of the city and suburb, are constructed in the modern manner, and lined with free-stone. The garrison, in times of peace, consists of ten companies of regulars, each containing, officers included, seventy-seven men; besides several companies of militia.

In the side of Xexemani, at a small distance from that suburb, on a hill, is a fort called St. Lazaro, commanding both the city and suburb. The height of the hill is between twenty and twenty-one toises, having been geometrically measured. It is joined to several higher hills, which run in an eastern direction. These terminate in another hill of considerable height, being eighty-four toises, called Monte de la Popa, and on the top of it is a convent of bare-footed Augustines, called Nuestra Senora de la Popa. Here is an enchanting prospect, extending over the country and coast to an immense distance.

The city and suburbs are well laid out, the streets being straight, broad, uniform, and well paved. The houses are built of stone, except a few of brick; but consist chiefly of only one story above the ground-floor; the apartments well contrived. All the houses have balconies and lattices of wood, as more durable in this climate than iron, the latter being soon corroded and destroyed by the moisture and acrimonious quality of the nitrous air; from whence, and the smoky colour of the walls, the outside of the buildings makes but an indifferent appearance.

The churches and convents of this city are the cathedral, that of the Trinity in the suburbs, built by bishop Don Gregory de Molleda, who also in 1734 founded a chapel of ease dedicated to St. Toribio. The orders which have convents at Carthagená, are those of St. Francis, in the suburbs, St. Dominic, St. Augustin, La Merced, also the Jacobins, and Recollets; a college of Jesuits, and an hospital of San Juan de Dios. The nunneries are those of St. Clara and St. Teresa. All the churches and convents are of a proper architecture, and sufficiently capacious; but there appears something of poverty

in the ornaments, some of them wanting what even decency requires. The communities, particularly that of St. Francis, are pretty numerous, and consist of Europeans, white Creoles, and native Indians.

Carthagena, together with its suburbs, is equal to a city of the third rank in Europe. It is well peopled, though most of its inhabitants are descended from the Indian tribes. It is not the most opulent in this country, for, besides the pillages it has suffered, no mines are worked here; so that most of the money seen in it is sent from Santa Fe and Quito, to pay the salaries of the governor and other civil and military officers, and the wages of the garrison; and even this makes no long stay here. It is not, however, unfrequent, to find persons who have acquired handsome fortunes by commerce, whose houses are splendidly furnished, and who live in every respect agreeable to their wealth. The governor resides in the city, which, till 1739, was independent of the military government. In civil affairs, an appeal lies to the audience of Santa Fe; and a viceroy of Santa Fe being that year created, under the title of viceroy of New Granada, the government of Carthagena became subject to him also in military affairs. The first who filled this viceroyalty was lieutenant-general Don Sebastian de Eslava; who defended Carthagena against the powerful invasion of the English in 1741.

Carthagena has also a bishop, whose spiritual jurisdiction is of the same extent as the military and civil government. The ecclesiastical chapter is composed of the bishop and prebends. There is also a court of inquisition, whose power reaches to the three provinces of Isla Espanola (where it was first settled), Terra Firma, and Santa Fe.

Besides these tribunals, the police and administration of justice in the city is under a secular magistracy, consisting of regidores, from whom every year are chosen two alcaldes, who are generally persons of the highest esteem and distinction. There is also an office of revenue, under an accountant and treasurer: here all taxes and monies belonging to the King are received; and the proper issues directed. A person of the law, with the title of *auditor de la gente de guerra*, determines processes.

The jurisdiction of the government of Carthagena reaches eastward to the great river De la Magdalena, and along it southward, till, winding away, it borders on the province of Antioquia; from thence it stretches westward to the river of Darien; and from thence northward to the ocean, all along the coasts between the mouths of these two rivers. The extent of this government, from east to west, is generally computed at fifty-three leagues; and from south to north, eighty-five. In this space are several fruitful vallies, called by the natives Savannas; as those of Zamba, Zenu, Tolu, Mompox, Baranca, and others; and in them many settlements large and small, of Europeans, Spanish Creoles, and Indians. There is a tradition, that all these countries, together with that of Carthagena, whilst they continued in their native idolatry, abounded in gold; and some vestiges of the old mines of that metal are still to be seen in the neighbourhoods of Simiti San Lucas, and Guamaco; but they are now neglected, being as imagined, exhausted. But what equally contributed to the richness of this country, was the trade it carried on with Choco and Darien; from whence they brought in exchange for this metal, the several manufactures and works of art they stood in need of. Gold was the most common ornament of the Indians, both for men and women.

### CHAP. III. — Description of Carthagena Bay.

CARTHAGENA bay is one of the best, not only on the coast, but also in all the known parts of this country. It extends two leagues and a half from north to south; has

has a sufficient depth of water and good anchorage; and so smooth, that the ships are no more agitated than on a river. The many shallows, indeed, at the entrance, on some of which there is so little water that even small vessels strike, render a careful steering necessary. But this danger may be avoided, as it generally is, by taking on board a pilot; and for further security, His Majesty maintains one of sufficient experience, part of whose employment is to fix marks on the dangerous places.

The entrance to the bay, as I have already observed, was through the narrow strait called Boca Chica, a name very properly adapted to its narrowness, signifying, in Spanish, Little Mouth, admitting only one ship at a time, and even she must be obliged to keep close to the shore. This entrance was defended on the east by a fort called Saint Lewis de Boca Chica, at the extremity of Tierra Bomba, and by Fort St. Joseph on the opposite side in the Isle of Baru. The former, after sustaining, in the last siege by the English, a vigorous attack both by sea and land, and a cannonading of eleven days, its defences ruined, its parapets beat down, and all its artillery dismounted, was relinquished. The enemy being thus masters of it, cleared the entrance, and, with their whole squadron and armaments, moved to the bottom of the bay. But, by the diligence and industry of our people, they found all the artillery of fort Santa Cruz nailed up. This fort was also, from its largeness, called Castillo Grande, and commanded all the ships which anchor in the bay. This, together with that of Boca Chica, St. Joseph, and two others, which defended the bay, called Manzanillo and Pastelillo, the enemy, enraged at their disappointment, demolished when they quitted the bay. The promising beginning of this invasion, as I have already observed, gave occasion to the shutting up and rendering impracticable the entrance of Boca Chica, and of opening and fortifying the former strait; so that an enemy would now find it much more difficult to force a passage.

The tides in this bay are very irregular, and the same may nearly be said of the whole coast. It is often seen to flow a whole day, and afterwards ebbs away in four or five hours; yet the greatest alteration observed in its depth is two feet, or two feet and a half. Sometimes it is even less sensible, and only to be perceived by the current or flow of the water. This circumstance increases the danger of striking, though a serenity continually reigns there. The bottom also being composed of a gravelly ooze, whenever a ship is aground, it often happens that she must be lightened before she can be made to float.

Towards Boca Chica, and two leagues and a half distant from it seawards, there is a shoal of gravel and coarse sand, on many parts of which there is not above a foot and a half of water. In 1735, the Conquistador man of war, bound from Carthagena to Porto Bello, struck on this shoal, and owed her safety entirely to a very extraordinary calm. Some pretended to say that the shoal was before known by the name of Salmedina; but the artists on board affirmed the contrary, and that the shoal on which she struck had never been heard of before. From the observations of the pilots and others, Nuestra Senora de la Popa bore east-north-east two degrees north, distance two leagues; the castle of St. Lewis de Boca Chica, east-south-east, distance three leagues and a half, and the north part of Isla Vofaria, south one quarter westerly. It must, however, be remembered, that these observations were made on the apparent rhombs of the needle.

The bay abounds with great variety of fish both wholesome and agreeable to the palate; the most common are the shad, the taste of which is not indeed the most delicate. The turtles are large and well tasted. But it is greatly infested with sharks, which are extremely dangerous to seamen, as they immediately seize every person they

discover in the water, and sometimes even venture to attack them in their boats. It is a common diversion for the crews of those ships who stay any time in the bay, to fish for these rapacious monsters, with large hooks fastened to a chain; though, when they have caught one, there is no eating it, the flesh being as it were a kind of liquid fat. Some of them have been seen with four rows of teeth; the younger have generally but two. The voracity of this fish is so prodigious, that it swallows all the filth either thrown out of ships, or cast up by the sea. I myself saw in the stomach of one the entire body of a dog, the softer parts only having been digested. The natives affirm that they have also seen alligators; but this being a fresh-water animal, if any were ever seen in the sea, it must be something very extraordinary.

In the bay the galleons from Spain wait the arrival of the Peru fleet at Panama, and on the first advice of this, sail away for Porto Bello; at the end of the fair held at that town, they return into this bay, and, after taking on board every necessary for their voyage, put to sea again as soon as possible. During their absence the bay is little frequented; the country vessels, which are only a few bilanders and feluccas, stay no longer than is necessary to careen and fit out for prosecuting their voyage.

#### CHAP. IV.—*Of the Inhabitants of Carthagena.*

THE inhabitants may be divided into different casts or tribes, who derive their origin from a coalition of Whites, Negroes, and Indians. Of each of these we shall treat particularly.

The Whites may be divided into two classes, the Europeans, and Creoles, or Whites born in the country. The former are commonly called Chapetones, but are not numerous; most of them either return into Spain after acquiring a competent fortune, or remove up into inland provinces in order to increase it. Those who are settled at Carthagena carry on the whole trade of that place, and live in opulence; whilst the other inhabitants are indigent, and reduced to have recourse to mean and hard labour for subsistence. The families of the White Creoles compose the landed interest; some of them have large estates, and are highly respected, because their ancestors came into the country invested with honourable posts, bringing their families with them when they settled here. Some of these families, in order to keep up their original dignity, have either married their children to their equals in the country, or sent them as officers on board the galleons; but others have greatly declined. Besides these, there are other Whites, in mean circumstances, who either owe their origin to Indian families, or at least to an intermarriage with them, so that there is some mixture in their blood; but when this is not discoverable by their colour, the conceit of being Whites alleviates the pressure of every other calamity.

Among the other tribes which are derived from an intermarriage of the Whites with the Negroes, the first are the Mulattos. Next to these the Tercerones, produced from a White and a Mulatto, with some approximation to the former, but not so near as to obliterate their origin. After these follow the Quarterones, proceeding from a White and a Terceron. The last are the Quinterones, who owe their origin to a White and Quarteron. This is the last gradation, there being no visible difference between them and the Whites, either in colour or features; nay, they are often fairer than the Spaniards. The children of a White and Quinteron are also called Spaniards, and consider themselves as free from all taint of the Negro race. Every person is so jealous of the order of their tribe or cast, that if, through inadvertence, you call them by a

degree lower than what they actually are, they are highly offended, never suffering themselves to be deprived of so valuable a gift of fortune.

Before they attain the class of the *Quinterones*, there are several intervening circumstances which throw them back; for between the *Mulatto* and the *Negro* there is an intermediate race, which they call *Sambos*, owing their origin to a mixture between one of these with an *Indian*, or among themselves. They are also distinguished according to the casts their fathers were of. Betwixt the *Tercerones* and the *Mulattos*, the *Quarterones* and the *Tercerones*, &c. are those called *Tente en el Ayre*, suspended in the air, because they neither advance nor recede. Children, whose parents are a *Quarteron* or *Quinteron*, and a *Mulatto* or *Terceron*, are *Salto atras*, retrogrades, because, instead of advancing towards being *Whites*, they have gone backwards towards the *Negro* race. The children between a *Negro* and *Quinteron* are called *Sambos de Negro*, *de Mulatto*, *de Terceron*, &c.

These are the most known and common tribes or *Castas*; there are, indeed, several others proceeding from their intermarriages; but, being so various, even they themselves cannot easily distinguish them; and these are the only people one sees in the city, the *estancias*\*, and the villages; for if any *Whites*, especially women, are met with, it is only accidental, these generally residing in their houses, at least, if they are of any rank or character.

These casts, from the *Mulattos*, all affect the Spanish dress, but wear very light stuffs on account of the heat of the climate. These are the mechanics of the city; the *Whites*, whether *Creoles*, or *Chapitones*, disdaining such a mean occupation, follow nothing below merchandize: but it being impossible for all to succeed, great numbers not being able to procure sufficient credit, they become poor and miserable from their aversion to those trades they follow in Europe; and, instead of the riches which they flattered themselves with possessing in the *Indies*, they experience the most complicated wretchedness.

The class of *Negroes* is not the least numerous, and is divided into two parts; the free and the slaves. These are again subdivided into *Creoles* and *Bozares*, part of which are employed in the cultivation of the *haziandes*†, or *estancias*. Those in the city are obliged to perform the most laborious services, and pay out of their wages a certain quota to their masters, subsisting themselves on the small remainder. The violence of the heat not permitting them to wear any clothes, their only covering is a small piece of cotton stuff about their waist; the female slaves go in the same manner. Some of these live at the *estancias*, being married to the slaves who work there; while those in the city sell in the markets all kind of eatables, and dry fruits, sweet-meats, cakes made of the maize, and cassava, and several other things about the streets. Those who have children sucking at their breast, which is the case of the generality, carry them on their shoulders, in order to have their arms at liberty; and when the infants are hungry, they give them the breast either under the arm or over the shoulder, without taking them from their backs. This will, perhaps, appear incredible; but their breasts, being left to grow without any pressure on them, often hang down to their very waist, and are not therefore difficult to turn over their shoulders for the convenience of the infant.

\* *Estancia* properly signifies a mansion, or place where one stops to rest; but at *Carthagená* it implies a country-house, which, by reason of the great number of slaves belonging to it, often equals a considerable village.

† *Hazianda* in this place signifies a country-house, with the lands belonging to it.

The dress of the Whites, both men and women, differs very little from that worn in Spain. The persons in grand employments wear the same habits as in Europe; but with this difference, that all their clothes are very light, the waistcoats and breeches being of fine Bretagne linen, and the coat of some other thin stuff. Wigs are not much worn here; and during our stay, the governor and two or three of the chief officers only appeared in them. Neckcloths are also uncommon, the neck of the shirt being adorned with large gold buttons, and these generally suffered to hang loose. On their heads they wear a cap of very fine and white linen. Others go entirely bareheaded, having their hair cut from the nape of the neck\*. Fans are very commonly worn by men, and made of a very thin kind of palm in the form of a crescent, having a stick of the same wood in the middle. Those who are not of the White class, or of any eminent family, wear a cloak and a hat flapped; though some Mulattos and Negroes dress like the Spaniards and great men of the country.

The Spanish women wear a kind of petticoat, which they call pollera, made of a thin silk, without any lining, and on their body, a very thin white waistcoat; but even this is only worn in what they call winter, it being insupportable in summer. They, however, always lace in such a manner as to conceal their breasts. When they go abroad they wear a mantelet; and on the days of precept, they go to mass at three in the morning in order to discharge that duty, and return before the violent heat of the day, which begins with the dawn†.

Women wear over their pollera a taffety petticoat, of any colour they please, except black; this is pinked all over, to shew the other they wear under it. On the head is a cap of fine white linen, covered with lace, in the shape of a mitre, and, being well starched, terminates forward in a point. This they call panito, and never appear abroad without it, and a mantelet on their shoulders. The ladies, and other native Whites, use this as their undress, and it greatly becomes them; for, having been used to it from their infancy, they wear it with a better air. Instead of shoes, they only wear, both within and without doors, a kind of slippers, large enough only to contain the tip of their feet. In the house their whole exercise consists in sitting in their hammocks‡, and swinging themselves for air. This is so general a custom, that there is not a house without two or three, according to the number of the family. In these they pass the greater part of the day, and often men, as well as women, sleep in them, without minding the inconveniency of not stretching the body at full length.

Both sexes are possessed of a great deal of wit and penetration, and also of a genius proper to excel in all kinds of mechanic arts. This is particularly conspicuous in those who apply themselves to literature, and who at a tender age, show a judgment and perspicacity, which in other climates, is attained only by a long series of years and the greatest application. This happy disposition and perspicacity continues till they are between twenty and thirty years of age, after which they generally decline as fast as they rose; and frequently, before they arrive at that age, when they should begin to reap the advantage of their studies, a natural indolence checks their farther progress, and they forsake the sciences, leaving the surprising effects of their capacity imperfect.

\* Here, and in most parts of South America, they have their hair cut so short, that a stranger would think every man had a wig, but did not wear it on account of the heat.

† The heat is inconsiderable, compared with that of the afternoon, till half an hour after sun-rise. — A.

‡ These hammocks are made of twisted cotton, and commonly knit in the manner of a net, and make no small part of the traffick of the Indians, by whom they are chiefly made. — A.

The principal cause of the short duration of such promising beginnings, and of the indolent turn so often seen in those bright geniuses, is doubtless the want of proper objects for exercising their faculties, and the small hopes of being preferred to any post answerable to the pains they have taken. For as there is in this country neither army nor navy, and the civil employments very few, it is not at all surprising that the despair of making their fortunes by this method, should damp their ardour for excelling in the sciences, and plunge them into idleness, the sure forerunner of vice; where they lose the use of their reason, and stifle those good principles which fired them when young and under proper subjection. The same is evident in the mechanic arts, in which they demonstrate a surprising skill in a very little time; but soon leave those also imperfect, without attempting to improve on the methods of their masters. Nothing indeed is more surprising than the early advances of the mind in this country, children of two or three years of age conversing with a regularity and seriousness that is rarely seen in Europe at six or seven; and at an age when they can scarce see the light, are acquainted with all the depths of wickedness.

The genius of the Americans being more forward than that of the Europeans, many have been willing to believe that it also sooner decays; and that at sixty years, or before, they have outlived that solid judgment and penetration, so general among us at that time of life; and it has been said that their genius decays, while that of the Europeans is hastening to its maturity and perfection. But this is a vulgar prejudice, confuted by numberless instances, and particularly by the celebrated Father Fr. Benito Feyjoo, *Téatro Critico*, vol. iv. essay 6. All who have travelled with any attention through these countries, have observed in the natives of every age a permanent capacity, and uniform brightness of intellect; if they were not of that wretched number, who disorder both their minds and bodies by their vices. And indeed one often sees here persons of eminent prudence and extensive talents, both in the speculative and practical sciences, and who retain them in all their vigour, to a very advanced age.

Charity is a virtue in which all the inhabitants of Carthagena, without exception, may be said particularly to excel: and did they not liberally exert it towards European strangers, who generally come hither to seek their fortune, such would often perish with sickness and poverty. This appears to me a subject of such importance, though well known to all who have visited this part of the world, that I shall add a word or two on it, in order to undeceive those, who, not contented with perhaps a competent estate in their own country, imagine that it is only setting their foot in the Indies, and their fortune is made.

Those who on board the galleons are called Pulizones, as being men without employment, stock, or recommendation; who, leaving their country as fugitives, and, without license from the officers, come to seek their fortune in a country where they are utterly unknown; after traversing the streets till they have nothing left to procure them lodging or food, they are reduced to have recourse to the last extremity, the Franciscan hospital; where they receive, in a quantity sufficient barely to keep them alive, a kind of pap made of casava; of which, as the natives themselves will not eat, the disagreeableness to wretched mortals never used to such food, may easily be conceived\*. This is their food; their lodging is the entrance of the squares and the porticos of churches, till their good fortune throws them in the way of hiring themselves to some trader going up the country, who wants a servant. The city merchants,

\* This is called Mandioc by the natives, and is the chief substitute the poorer people have for bread; and so far from being rejected even by the richer, that many prefer it to bread made from the best European flour, much more to biscuit, which after such a voyage generally begins to be full of weevils. A.

standing in no need of them, discountenance these adventurers. Affected by the difference of the climate, aggravated by bad food, dejected and tortured by the entire disappointment of their romantic hopes, they fall into a thousand evils, which cannot well be represented: and among others, that distemper called Chapetonada, or the distemper of the Chapetones, without any other succour to fly to than Divine Providence; for none find admittance into the hospital of St. Juan de Dios, but those who are able to pay, and consequently poverty becomes an absolute exclusion. Now it is that the charity of these people becomes conspicuous. The negro and mulatto free women, moved at their deplorable condition, carry them to their houses, and nurse them with the greatest care and affection. If any one die, they bury him by the charity they procure, and even cause masses to be said for him. The general issue of this endearing benevolence is, that the Chapetone, on his recovery, during the fervour of his gratitude, marries either his negro or mulatto benefactress, or one of her daughters; and thus he becomes settled, but much more wretchedly than he could have been in his own country, with only his own labour to subsist on.

The disinterestedness of these people is such, that their compassion towards the Chapetones must not be imputed to the hopes of producing a marriage, it being very common for them to refuse such offers, either with regard to themselves or their daughters, that their misery may not be perpetual, but endeavour to find them masters whom they may attend up the country, to Santa Fe, Popayan, Quito, and Peru, whither their inclinations or prospects lead them.

They who remain in the city, whether bound by one of the above marriages, or, which is but too common, are in another condition very dangerous to their future happiness, turn Pulperos\*, Canoeros, or such like mean occupations; in all which, they are so harrassed with labour, and their wages so small, that their condition in their own country must have been miserable indeed, if they have not reason to regret quitting it. The height of their enjoyment, after toiling all day and part of the night, is to regale with bananas, a cake of maize or casava, which serves for bread, and a slice of casajo, or hung-beef; without tasting wheat bread during the whole year.

Others, not a few, equally unfortunate, retire to some small estancia, where, in a Bujo or straw hut, they live little different from beasts, cultivating, in a very small spot, such vegetables as are at hand, and subsisting on the sale of them.

What has been observed with regard to the negro and mulatto women, and which may also be extended to the other casts, is, as to the charitable part, applicable to all the women and whites; who in every tribe, are of a very mild and amiable disposition; and from their natural softness and sympathy excel the men in the practice of that christian virtue.

Among the reigning customs here, some are very different from those of Spain, or the most known parts of Europe. The principal of these are the use of brandy, chocolate, honey, sweat-meats, and smoking tobacco: all which shall be taken notice of.

The use of brandy is so common, that the most regular and sober persons never omit drinking a glass of it every morning about eleven o'clock; alledging that this spirit strengthens the stomach, weakened by copious and constant perspiration, and sharpens the appetite. Hazer las onze, to take a whet at eleven, that is to drink a glass of brandy, is the common invitation. This custom, not esteemed pernicious by these people when used with moderation, has degenerated into vice; many being so

\* Pulperos are men who work in a kind of tent, called in Spanish Pulperios, and the Canoeros are watermen who carry goods in Pirogues or canoes.

fond of it, that during the whole day, they do nothing but *hazer las onze*. Persons of distinction use Spanish brandy, but the lower class and negroes very contentedly take up with that of the country, extracted from the juice of the sugar-cane, and thence called *Agoa ardente de canna*, or cane brandy, of which sort the consumption is much the greatest.

Chocolate, here known only by the name of cacao, is so common, that there is not a negro slave but constantly allows himself a regale of it after breakfast; and the negro women sell it ready made about the streets, at the rate of a quarter of a real (about five farthings sterling) for a dish. This is however so far from being all cacao, that the principal ingredient is maize: but that used by the better sort is neat, and worked as in Spain. This they constantly repeat an hour after dinner, but never use it fasting, or without eating something with it.

They also make great use of sweet-meats and honey; never so much as drinking a glass of water without previously eating some sweet-meats. Honey is often preferred as the sweeter, to conserves or other sweet-meats either wet or dry. Their sweet-meats are eaten with wheat bread, which they use only with these and chocolate; the honey they spread on *casava* cakes.

The passion for smoking is no less universal, prevailing among persons of all ranks in both sexes. The ladies and other white women smoke in their houses, a decency not observed either by the women of the other casts, nor by the men in general, who regard neither time nor place. The manner of using it is, by slender rolls composed of the leaves of that plant; and the women have a particular manner of inhaling the smoke. They put the lighted part of the roll into their mouths, and there continue it a long time without its being quenched, or the fire incommoding them. A compliment paid to those for whom they profess an intimacy and esteem; is, to light their tobacco for them, and to hand them round to those who visit them. To refuse the offer would be a mark of rudeness not easily digested; and accordingly they are very cautious of paying this compliment to any but those whom they previously know to be used to tobacco. This custom the ladies learn in their childhood from their nurses, who are negro slaves; it is so common among persons of rank, that those who come from Europe easily join in it, if they intend to make any considerable stay in the country.

One of the most favourite amusements of the natives here, is a ball, or *Fandango*. These are the distinguished rejoicings on festivals and remarkable days. But while the galleons, *guarda costas*, or other Spanish ships are here, they are most common, and at the same time conducted with the least order; the crews of the ships forcing themselves into their ball-rooms. These diversions, in houses of distinction, are conducted in a very regular manner; they open with Spanish dances, and are succeeded by those of the country, which are not without spirit and gracefulness. These are accompanied with singing, and the parties rarely break up before day-light.

The *Fandangos* or balls of the populace, consist principally in drinking brandy and wine, intermixed with indecent and scandalous motions and gestures; and those continual rounds of drinking soon give rise to quarrels, which often bring on misfortunes. When strangers of rank visit the city, they are generally at the expense of these balls; as the entrance is free, and no want of liquor, they need give themselves no concern about the want of company.

Their burials and mournings are something singular; as in this particular they endeavour to display their grandeur and dignity, too often at the expense of their tranquillity. If the deceased be a person of condition, his body is placed on a pompons

Catafalco, erected on the principal apartment of the house, amidst a blaze of tapers. In this manner the corpse lies twenty-four hours or longer, for friends to visit it at all hours; as also the lower class of women, among whom it is a custom to lament over the deceased.

These women, who are generally dressed in black, come in the evening, or during the night, into the apartment where the corpse lies; and having approached it, throw themselves on their knees, then rise and extend their arms as to embrace it; after which, they begin their lamentations in a doleful tone, mixed with horrid cries, which always conclude with the name of the deceased: afterwards they begin, in the same disagreeable vociferations, his history, rehearsing all his good and bad qualities, not even omitting his amours of any kind, and in so circumstantial a narrative, that a general confession could hardly be more full; at length, quite spent, they withdraw to a corner stored with brandy and wine, on which they never fail plentifully to regale themselves. As these depart from the body, others succeed, till they have all taken their turn. The same, afterwards is repeated by the servants, slaves, and acquaintance of the family, which continues without intermission during the remainder of the night; whence may easily be imagined the confusion and noise occasioned by this dismal vociferous ceremony.

The funeral also is accompanied with the like noisy lamentations; and even after the corpse is deposited in the grave, the mourning is continued in the house for nine days, during which time the *Pacientes* or mourners, whether men or women, never stir from the apartment, where they receive the *Pesanes*, or compliments of condolence. During nine nights, from sun-set to sun-rising, they are attended by their relations and intimate acquaintances; and it may be truly said of them, that they are all sincerely sorrowful; the mourners for the loss of the deceased, and the visitors from the uneasiness and fatigue of so uncomfortable an attendance.

#### CHAP. V.—*Of the Climate of Carthagena, and the Diseases incident to Natives and Foreigners.*

THE climate of Carthagena is excessively hot, for by observations we made on the 19th of November 1735, by a thermometer constructed according to Mr. Reaumur, the spirit was elevated to  $1025\frac{1}{2}$ ; and in our several experiments made at different hours, varied only from 1024 to 1026. By experiments made the same year at Paris on a thermometer of the same gentleman, the spirit rose on the 16th of July at three in the afternoon, and on the 10th of August at half an hour after three, to  $1025\frac{1}{2}$ , and this was the greatest degree of heat felt at Paris during that year; consequently the degree of heat in the hottest day at Paris, is continual at Carthagena.

But the nature of this climate chiefly displays itself from the month of May to the end of November, the season they call winter; because during that time, there is almost a continual succession of thunder, rain, and tempests; the clouds precipitating the rain with such impetuosity, that the streets have the appearance of rivers, and the country of an ocean. The inhabitants make use of this opportunity, otherwise so dreadful, for filling their cisterns; this being the only sweet water they can procure. Besides the water saved for private uses, there are large reservoirs on the bastions, that the town may not be reduced to the shocking consequence of wanting water. There are indeed wells in most houses; but the water being thick and brackish, is not fit to drink, but serves for other uses.

From

From the middle of December to the end of April, the rains cease, and the weather becomes agreeable, the heat being somewhat abated by the north-east winds which then set in. This season they call summer; besides which, there is another called the Little Summer of St. John, as, about the festival of that saint, the rains are intermitted, and refreshing gales begin to blow, and continue about a month.

The invariable continuance of such great heats, without any sensible difference between night and day, occasions such profuse perspiration, that the wan and livid complexion of the inhabitants would make a stranger suspect they were just recovered from some terrible distemper. Their actions are conformable to their colour; in all their motions there is something lax and sluggish; it even affects their speech, which is soft and slow, and their words generally broken. But notwithstanding all these appearances of sickness and debility, they enjoy a good state of health. Strangers from Europe retain their strength and ruddy colour possibly for three or four months; but afterwards both suffer such decays from the excessive perspiration, that these new-comers are no longer to be distinguished by their countenances from the old inhabitants. Young persons are generally most affected by the climate, which spares the more aged, who preserve their vivid countenance, and so confirmed a state of health, as even to reach their eightieth year and upwards: this is common among all the classes of inhabitants.

The singularity of the climate, in all probability, occasions the singularity of some of the distempers which here affect the human race; and these may be considered in two different lights; one, as only attacking the Europeans newly landed, and the other, as common both to Creoles and Chapitones.

Those of the first kind are, in the country, commonly called Chapetonadas, alluding to the name given there to the Europeans. These distempers are so very deleterious, that they carry off a multitude of people, and thin the crews of European ships; but they seldom last above three or four days, in which time the patient is either dead or out of danger. The nature of this distemper is but little known, being caused in some persons by cold, and in others by indigestion; it soon brings on the vomito prieto, or black vomit, which is the fatal symptom; very few being ever known to recover. Some, when the vomit attacks them, are seized with such a delirium, that, were they not tied down, they would tear themselves to pieces, and thus expire in the midst of their furious paroxysms. It is remarkable, that only the new-comers from Europe are subject to this distemper, and that the natives, and those who have lived some time here, are never affected by it; but enjoy an uninterrupted state of health, amidst the dreadful havoc it makes among others. It is also observed to rage more among the common seamen, than those who have been able to live on more wholesome food; whence, salt meat has been considered as pernicious in bringing on this distemper, and that the humours it produces, together with the labour and hardships of the seamen, incline their blood to putrefaction, and from this putrefaction the vomito prieto is supposed to have its origin. Not that the sailors are its only victims, for even passengers, who possibly have not tasted any salt meat during the voyage, often feel its effects. Another remarkable circumstance is, that persons who have been once in this climate are never after, upon their return again, subject to this distemper; but enjoy the same state of health with the natives, even though they do not lead the most temperate lives.

The investigation of the cause of this strange distemper has exercised the attention of all the surgeons in the galleons, as well as the physicians of the country; and the result of their researches is, that they impute it to the food, labour, and hardships of the seamen. Doubtless these are collateral causes; but the principal question is, why persons exempt from those inconveniences, frequently die of the distemper? Unhappily,

after

after all the experiments that have been made, no good method of treatment has been discovered; no specific for curing it, nor preservative against it. The symptoms are so vague, as sometimes not to be distinguished from those of slight indispositions; and though the vomit be the determinate symptom, the fever preceding it is observed to be very oppressive, and extremely affecting to the head.

This distemper does not shew itself immediately after the arrival of the European ships in the bay, nor has it been long known here; for what was formerly called Chape-tonades, were only indigestions, which, though always dangerous in these climates, were, with little difficulty, cured by remedies prepared by the women of the country, and which are still used with success, especially if taken in the beginning. The ships afterwards going to Porto Bello, were there first attacked by this terrible disease, which has always been attributed to the inclemency of the climate, and the fatigue of the seamen in unloading the ships, and drawing the goods during the fair.

The vomito prieto was unknown at Carthagena and all along the coast, till the years 1729 and 1730. In 1729, Don Domingo Justiniani, commodore of the guarda costas, lost so considerable a part of his ships' companies at Santa Martha, that the survivors were struck with astonishment and horror at the havock made among their comrades. In 1730, when the galleons under Don Manuel Lopez Pintado came to Carthagena, the seamen were seized with the same dreadful mortality; and so sudden were the attacks of the disease, that persons walking about one day, were the next carried to their graves.

The inhabitants of Carthagena, together with those in the whole extent of its government, are very subject to the mal de San Lazaro, or leprosy, which seems still to gain ground. Some physicians attribute the prevalence of it to pork, which is here a very common food; but it may be objected, that in other countries, where this flesh is as frequently eaten, no such effects are seen, whence it evidently appears that some latent quality of the climate must also contribute to it. In order to stop the contagion of this distemper, there is without the city, an hospital called San Lazaro, not far from the hill on which is a castle of the same name. In this hospital all persons of both sexes labouring under this distemper are confined, without any distinction of age or rank; and if any refuse to go, they are forcibly carried thither. But here the distemper increases among themselves, they being permitted to intermarry, by which means it is rendered perpetual. Besides, their allowance being here too scanty to subsist on, they are permitted to beg in the city; and from their intercourse with those in health, the number of lepers never decreases, and is at present so considerable, that their hospital resembles a little town. Every person at his entering this structure, where he is to continue during life, builds a cottage, called in the country Bujio, proportional to his ability, where he lives in the same manner as before in his house, the prohibition of not going beyond the limits prescribed him, unless to ask alms in the city, only excepted. The ground on which the hospital stands is surrounded by a wall, and has only one gate, and that always carefully guarded.

Amidst all the inconveniences attending this distemper, they live a long time under it, and some even attain to an advanced age. It also greatly increases the natural desire of coition, and intercourse of the sexes; so that, to avoid the disorders which would result from indulging this passion, now almost impossible to be controlled, they are permitted to marry.

If the leprosy be common and contagious in this climate, the itch and herpes are equally so, especially among Europeans, who are not seasoned to the climate; and, if neglected in the beginning, it is dangerous to attempt a cure when custom has rendered them

them natural. The remedy against them, in the first stage, is a kind of earth called Maquimaqui, found in the neighbourhood of Carthagena, and, on the account of this virtue, exported to other parts.

Another very singular distemper, though not so common, is the *cobrilla*, or little snake, being, as the most skilful think, a tumour caused by certain malignant humours, settled longitudinally between the membrane of the skin, and daily increasing in length, till the swelling quite surrounds the part affected, which is usually the arm, thigh, and leg; though sometimes it has been known to spread itself all over these parts. The external indications of it are, a round inflamed tumour, of the thickness of a quarter of an inch, attended with a slight pain, but not vehement, and a numbness of the part, which often terminates in a mortification. The natives are very skilful in removing it by the following process:—They first examine where (according to their phrase) the head is, to which they apply a small suppurative plaster, and gently foment the whole tumour with oil. The next day the skin under the plaster is found divided, and through the orifice appears a kind of white fibre, about the size of a coarse sewing thread; and this, according to them, is the *cobrilla*'s head, which they carefully fasten to a thread of silk, and wind the other end of it about a card, rolled up like a cylinder. After this they repeat the fomentation with oil, and the following day continue to wind about the cylindric card the part of this small fibre which appears in sight. Thus they proceed till the whole is extracted, and the patient entirely cured. During this operation, their chief care is not to break the *cobrilla*; because, they say, it would then cause a humour to spread through the body, and produce a great quantity of such little snakes, as they will have them to be, when the cure would become extremely difficult. It is a current notion among them, that when it has, for want of care in the beginning, completed the circle, and, according to them, joined its head with its tail, the disease generally proves fatal. But this is very seldom the case; the pain warning the patient immediately to apply a remedy, which should be accompanied with emollients for dissipating the humour.

These people firmly believe it to be a real *cobrilla* or small snake, and accordingly have called it by that name. At its first appearance, a small flow motion may indeed be perceived; but this is soon over, and possibly proceeds from the compression or extension of the nervous fibres which compose it, without its having any animal life. I do not, however, pretend to determine absolutely on this point.

Besides these, another distemper common in this country is the spasm, or convulsion, which always proves mortal, and seldom comes alone. And of this I shall speak when I describe other parts of America, where it is equally dangerous, and more common.

#### CHAP. VI. — *Description of the Country, and of the Trees and Vegetables in the Neighbourhood of Carthagena.*

THE country about Carthagena is so luxuriant, that it is impossible to view, without admiration, the rich and perpetual verdure of the woods and plants it naturally produces. But these are advantages of which the natives make little use; their innate sloth and indolence not allowing them to cultivate the gifts of nature, which seem to have been dealt out with a lavish hand. The interwoven branches of the trees form a shelter impenetrable both to heat and light.

The trees here are large and lofty, their variety admirable, and entirely different from those of Europe. The principal of these for dimensions are, the *caobo* or *acajou*, the cedar

cedar, the maria, and the balsam tree. Of the first are made the canoes and champanes used for fishing, and the coast and river trade, within the jurisdiction of this government. These trees produce no eatable fruit; but their wood is compact, fragrant, and beautiful. The cedar is of two kinds, white and reddish; but the last most esteemed. The maria and the balsam trees, besides the usefulness of their timber, distil those admirable balsams called Maria Oil, and Balsam of Tolu, so called from a village in the neighbourhood of which it is found in the greatest quantity, and of a peculiar excellency.

Besides these trees, here are also the tamarind, the medlar, the sapote, the papayo, the guayabo, the canna fistulo or cassia, the palm, the manzanillo, and several others, most of them producing a wholesome and palatable fruit, with a durable and variegated wood. The manzanillo is particularly remarkable; its name is derived from the Spanish word *Manzan*, an apple, which the fruit of this tree exactly resembles in shape, colour, and flavour; but contains, under this beautiful appearance, such a subtle poison, that its effects are perceived before it is tasted. The tree is large, and its branches form near the top a kind of crown; its wood hard, and of a yellowish tinct. On being cut, it issues out a white juice, but not unlike that of the fig-tree, less white, and of a thinner consistence; but equally poisonous with the fruit itself; for if any happens to drop on any part of the flesh, it immediately causes an ulcer and inflammation, and, unless speedy application be used, soon spreads through all the other parts of the body\*; so that it is necessary, after felling it, to leave it till thoroughly dried, in order to its being worked without danger; and then appears the beauty of this wood, which is exquisitely variegated and veined like marble on its yellow ground. Upon tasting its fruit, the body immediately swells, till the violence of the poison, wanting sufficient room, bursts it; as has been too fully confirmed by several melancholy instances of European sailors who have been sent on shore to cut wood. The same unhappy consequence also attended great numbers of Spaniards at the conquest of these countries, till, according to Herrera, common oil was found to be the powerful antidote to this subtle poison.

But such is the malignity of the manzanillo, that if a person happens to sleep under it, he is soon awaked, and finds his body swelled almost as if he had actually eaten the fruit†; and continues in great danger and tortures, till relieved by repeated anointings and the use of cooling draughts. The very beasts themselves, by their natural instinct, are so far from eating its fruit, that they never approach the tree.

The palm-trees, rising with their tufted heads above the branches of the others, form a grand perspective on the mountains. These, notwithstanding the difference is scarce perceivable, are really of different kinds, as is evident from the diversity of their fruit. They distinguish four principal species: the first produce cocoa; the second dates, of a very pleasant taste; the third, called *Palma-real*, whose fruit, though of the same figure, but something less than the date, is not at all palatable, but has a very disagreeable taste; and the fourth, which they call *corozo*, has a fruit larger than dates, of an exquisite taste, and proper for making cooling and wholesome draughts. The palmitos, or branches of the *palma-real*, are agreeably tasted, and so large, as frequently to weigh from two to three arrobas‡. The other species also produce them,

\* The juice dropping on the flesh generally causes an inflammation; but I do not remember ever to have seen an ulcer produced, or any very bad effects, the hot burning pain excepted. A.

† The author is here misinformed. Indeed persons, who have slept under the tree, have afterwards complained of an head-ach. Those who happen to take shelter under it in a shower, generally feel the same effect, from the dropping of the leaves, as though the juice had dropt on them. A.

‡ The arroba is twenty-five pounds.

but neither in such plenty, nor so succulent. Palm-wine is also extracted from all the four; but that from the palma-real and corozo is much the best. The manner of making it, is either by cutting down the palm-tree, or boring a hole in the trunk, in which is placed a tap, with a vessel under it for receiving the liquor, which, after five or six days fermentation, becomes fit for drinking. The colour of it is whitish; the taste racy: it bears a greater head than beer, and is of a very inebriating quality. The natives, however, reckon it cooling, and it is the favourite liquor of the Indians and Negroes. The guaiacum and ebony trees are equally common; and their hardness almost equal to that of iron. These species of wood are sometimes carried into Spain, where they are greatly esteemed, but here they are disregarded from their great plenty.

Among the variety of vegetables, which grow under the shade of the trees, and along the sunny borders of the woods, the most common is the sensitive; on touching one of the leaves of which, all those on the same branch immediately close against each other. After a short interval, they begin gradually to open and separate from each other, till they are entirely expanded. The sensitive is a small plant about a foot and a half or two feet in height, with a slender stem, and the branches proportionally weak and tender. The leaves are long, and stand so close together, that all on one branch may be considered as a single leaf, four or five inches in length, and ten lines in breadth; which, being subdivided into the other still smaller, forms in each of them the true leaf, which is about four or five lines in length, and not quite one in breadth. On touching one of these small leaves, all of them immediately quit their horizontal position, and fly into a perpendicular direction, closing their inward superficies, so that those, which before this sensitive motion made two leaves, now seem as but one. The vulgar name of this plant at Carthagená being improper to be mentioned here, we shall omit it; in other parts it is more decently called *La Vergonzoza*, the bashful, and *La Doncella*, the maiden. The common people imagine that this effect is caused by pronouncing its name at the instant of the touch; and are amazed that a plant should have the wisdom of shewing its obedience to what was ordered, or that it was too much affected by the injury offered it to conceal its resentment.

We afterwards met with this plant at Guayaquil, where the climate seems to be better adapted to it than that of Carthagená; for it is not only more common, but grows to three or four feet in height, the leaves and every part in proportion.

In the woods about Carthagená are found a great quantity of bejucos of a different magnitude, figure, and colour, and some of the stems flat. One species is particularly known on account of its fruit called *Habilla de Carthagená*, the bean of Carthagená. It is about an inch broad, and nine lines in length, flat, and in the shape of a heart. The shell, though thin, is hard, and on the outside scabrous. It contains a kernel resembling an almond, but less white, and extremely bitter. This is one of the most effectual antidotes known in that country against the bites of vipers and serpents; for a little of it being eaten immediately after the bite, it presently stops the effects of the poison; and accordingly all who frequent the woods, either for felling trees or hunting, never fail to eat a little of this *habilla* fasting, and repair to their work without any apprehension. I was informed by an European, who was a famous hunter, and by several other persons worthy of credit, that, with this precaution, if any one happened to be bit by a serpent, it was attended with no ill consequence. The natives tell you, that, this *habilla* being hot in the highest degree, much of it cannot be eaten; that the common dose of it is less than the fourth part of a kernel, and that no hot liquor, as wine, brandy, &c. must be drunk immediately after taking it. In this case, they doubtless

doubtless derive their knowledge from experience. This valuable habilla is also known in other parts of America near Carthagena, and goes every where by its name, as being the peculiar product of its jurisdiction.

CHAP. VII. — *Of the Beasts, Birds, Reptiles, and Insects, in the Territories of Carthagena.*

FROM the trees and plants in this jurisdiction, we shall proceed to the different kinds of animals; some of which are tame for the use and pleasure of its inhabitants; others wild, and of such different qualities and kinds, as wonderfully display the diversity which the Author of nature has shewn in the multitude of his works. The quadrupeds and reptiles frequent the dry and desert places, and are distinguished by an endless variety of spots, whilst the vivid plumage of the feathered race glows with exquisite beauty; and the brilliant scales of another kind conceal the most active poisons.

The only tame eatable animals are the cow and the hog, of which there are great plenty. The beef, though not absolutely bad, cannot be said to be palatable. The constant heat of the climate preventing the beasts from fattening, deprives their flesh of that succulency it would otherwise have acquired: the pork is delicate, and allowed not only to be the best in all America, but even to exceed any in Europe. This, which is the usual food of Europeans and Creoles at Carthagena, besides its palatableness, is also looked upon to be so wholesome, that even sick persons are allowed it preferably to poultry, which is here very good, and in great abundance.

I must not omit a singular stratagem practised here for taking wild geese, the extreme cheapness of which naturally inclined us to ask how they caught them in such quantities: in answer to our question, we received the following account. Near Carthagena, to the eastward of Monte de la Popa, is a large lake called La Cienega de Tescas, abounding with fish, but reckoned unwholesome. The water of this lake, communicating with the sea, is salt, but without increase or decrease, the difference of the tides here being insignificant. Every evening vast flights of geese retire hither from all the neighbouring countries, as their natural place of rest during the night. The persons who catch these birds, throw into the lake about fifteen or twenty large calabashes, which they call totumos; and the geese, being accustomed to see these calabashes floating on the water, never avoid them. In three or four days the persons return early in the morning to the lake, with another calabash, having holes in it for seeing and breathing. This calabash he places on his head, and walks in the water, with only the calabash above the surface. In this manner, with all possible stillness, he moves towards the geese, pulling them under water with one hand, and then seizing them with the other. When he has thus taken as many as he is able to carry, he returns towards the shore, and delivers them to his companion, who waits for him at a certain distance in the water. This done, he renews his sport, either till he has taken as many as he desires, or the birds begin to disperse over the country.

Other persons make it their business to procure different kinds of game, as deer, rabbits, and wild boars, called here sajones; but these are eaten only by the country Negroes and Indians, except the rabbits, which meet with a good market in the city.

The wild beasts are also of various kinds; as tigers, which make a great havock, not only among the cattle, but among the human species. Their skin is very beautiful, and some are as large as little horses\*. Here are also leopards, foxes, armadillos, a

\* They are not larger than mastiff dogs. A.

kind of scaly lizard; ardillas, or squirrels, and many others; besides innumerable kinds of monkies living in the woods, some remarkable for their size, others for their colour. The artifice generally observed by the fox, in defending itself against dogs or other animals, by whom it is pursued, by voiding its urine on its own tail and sprinkling it on them, effectually here answers the intention; the smell of it being so strong and fetid, that it throws the dogs into disorder, and thus the fox escapes. The stench of this urine is so great, that it may be smelt a quarter of a league from the place; and very often for half an hour after. The fox here is not much bigger than a large cat; but delicately shaped; has a very fine coat, and of a cinnamon colour; but no large brush on its tail. The hair, however, is spongy, and forms a bunch proper for the above-mentioned method of defence.

Nature, which has furnished the fox with such an effectual defence, has not forgot the armadillo, the name of which partly describes it. The size of it is about that of a common rabbit, though of a very different shape; the snout, legs, and tail, resembling those of a pig. His whole body is covered with a strong shell, which, answering exactly every where to the irregularities of its structure, protects it from the insults of other animals, without affecting its activity. Besides this, he has another, as a helmet, connected by a joint to the former; this guards his head, and thus he is every way safe.

These shells are variegated with several natural relievos, as it were, in *chiaro oscuro*, so that they are at once his defence, and a beautiful ornament. The Negroes and Indians, who eat its flesh, give a high character of it.

Among the monkies of this country, the most common are the micos, which are also the smallest. They are generally about the size of a cat, of a brownish colour; and too well known to need any further description. The larger kind, which are less known, I shall describe in another place.

The birds seen in this hot climate are so numerous, that it is impossible to give a distinct representation of them; particularly of the beauty and brilliancy of their various plumage. The cries and croakings of some, mixed with the warblings of others, disturb the pleasure which would flow from the melody of the latter, and render it impossible to distinguish the different cries of the former; and yet in this instance we may observe the wisdom of Nature in distributing her favours; the plumage of those birds being the most beautiful, whose croakings are the most offensive; while, on the other hand, those whose appearance has nothing remarkable, excel in the sweetness of their notes. This is particularly evident in the guacamayo, the beauty and lustre of whose colours are absolutely inimitable by painting; and yet there is not a more shrill and disagreeable sound than the noise it makes: this is in a great measure common to all other birds, whose bills are hard and crooked, and their tongue thicker than usual, as the parrots, the cotorras, and the periquitos. All these birds fly in troops, so that the air often sounds with their cries.

But of all the singularities among the feathered race, nothing is more remarkable than the bill of the tulcan, or preacher. This bird is about the size of a common pigeon, but its legs much larger; its tail is short, and its plumage of a dark colour, but spotted with blue, purple, yellow, and other colours; which have a beautiful effect on the dark ground. Its head is beyond all proportion to its body, but otherwise he would not be able to support his bill, which, from the root to the point, is at least six or eight inches, and the upper mandible has, at its root, a base of at least an inch and a half, of a triangular figure, whose apex is at the point of the bill. The two lateral superficies form a kind of elevation on the upper part; and the third receives the lower mandible,

dible, which closes with the upper through the whole length; so that the two parts are every where perfectly equal, and from their roof narrows insensibly, till near the top, where it suddenly becomes incurvated, and terminates in a strong and sharp point. The tongue is formed like a feather, and of a deep red colour, like the whole inside of its mouth. The bill is variegated with all those bright colours which adorn the plumage of other birds. At the base, and also at the convexity, it is generally of a light yellow, forming a kind of riband half an inch in breadth. The rest is of a fine deep purple, except two streaks near the root, of a rich scarlet, an inch distant from each other. The inward fleshy parts, which touch when the bill is closed, are furnished with teeth, which form the surface of its two serrated mandibles. The name of Preacher has been given to this bird, from its custom of perching on the top of a tree above his companions, while they are asleep, and making a noise resembling ill-articulated sounds, moving his head to the right and left, in order to keep off the birds of prey from seizing on the others. They are easily rendered so very tame, as to run about in houses, and come when called. Their usual food is fruit; but the tame eat other things, and in general whatever is given them.

To describe all the other extraordinary birds would engage me in a prolixity of little entertainment or use; but I hope a word or two on the Gallinazos will be excused. This bird is about the size of a pea-hen, but the neck and head somewhat larger. From the crop to the base of the bill, instead of feathers, it has a wrinkled, glandulous and rough skin, covered with small warts and tubercles. Its feathers are black, which is also the colour of its skin, but usually with something of a brownish tinct. Its bill is well proportioned, strong, and a little crooked. They are so numerous and tame in the city, that it is not uncommon to see the ridges of the houses covered with them. They are also very serviceable; for they clean the city from all kinds of filth and ordure, greedily devouring any dead animal, and, when these are wanting, seek other filth. They have so quick a scent, that they will smell at the distance of three or four leagues \* a dead carcase, and never leave it till they have entirely reduced it to a skeleton †. The infinite number of these birds found in such hot climates is an excellent provision of Nature, as otherwise the putrefaction caused by the constant and excessive heat would render the air insupportable to human life. At first they fly heavily, but afterwards dart up out of sight. On the ground they hop along with a kind of torpor, though their legs are strong and well proportioned. They have three toes forward turning inwards, and one in the inside, turned a little backwards; so that, the feet interfering, they cannot walk with any agility, but are obliged to hop or skip. Each toe has a long and thick claw.

When the gallinazos find no food in the city, their hunger drives them into the country, among the beasts in the pastures; and, on seeing any one with a sore on the back, they immediately alight on it, and attack the part affected. It is in vain for the poor beast to endeavour to free itself from these devourers, either by rolling on the ground, or hideous cries; for they never quit their hold, but with their bills so widen the wound that the creature soon expires.

\* The author should have said *miles*. — A.

† It is surprising to see what numbers of these birds gather round the carcase of a dead whale, which is no uncommon thing on these coasts. The carcase shall be covered with them; and yet their number shall be nothing in comparison to that hovering about, waiting for their turn, for which they often fight. They are seldom above a fortnight in making a skeleton of a large whale. — A.

There is another kind of gallinazos, somewhat larger than these, only to be met with in the country. In some of these the head and part of the neck are white, in some red, and in others a mixture of both these colours. A little above the beginning of the crop, they have a ruff of white feathers. These are equally fierce and carnivorous with the former, and called the kings of the gallinazos, probably because the number of them is but few; and it is observed, that when one of these has fastened on a dead beast, none of the others approach till he has eaten the eyes, with which he generally begins, and is gone to another part, when they all flock to the prey.

Bats are very common all over the country; but Carthagena is infested with such multitudes of them, that after sun-set, when they begin to fly, they may, without any hyperbole, be said to cover the streets like clouds\*. They are the most dextrous bleeders both of men and cattle; for the inhabitants being obliged, by the excessive heats, to leave open the doors and windows of the chambers where they sleep, the bats get in, and if they happen to find the foot of any one bare, they insinuate their tooth into a vein, with all the art of the most expert surgeon, sucking the blood till they are satiated, and withdraw their tooth; after which the blood flows out at the orifice. I have been assured, by persons of the strictest veracity, that such an accident has happened to them; and that, had they not providentially awaked soon, their sleep would have been their passage into eternity, they having lost so large a quantity of blood, as hardly to be able to bind up the orifice. The puncture not being felt is (besides the great precaution with which it is made) attributed to the gentle and refreshing agitation of the air by the bat's wings, hindering the person from feeling this slight puncture by throwing him into a deeper sleep. Nearly the same thing happens to horses, mules, and asses, but beasts of a thick and hard skin are not exposed to this inconveniency.

We shall next proceed to the insects and reptiles, in which nature has no less displayed its infinite power. The great number of them is not only an inconvenience to the inhabitants, but health, and even life itself, often suffers from the malignity of their poison. The principal are the snakes, the centopes†, the scorpions, and the spiders; of all which there are different kinds, and their poisons of different activity.

Of the snakes, the most common, and at the same time the most poisonous, are the corales, or coral-snakes, the cascabeles, or rattle-snakes, and the culebras de bejuco‡. The first are generally between four and five feet in length, and an inch in diameter. They make a very beautiful appearance, their skin being all over variegated with a vivid crimson, yellow, and green. The head is flat and long, like that of the European viper. Each mandible is furnished with a row of pointed teeth, through which, during the bite, they insinuate the poison; the person bit immediately swells to such a degree, that the blood gushes out through all the organs of sense, and even the coats of the veins at the extremities of the fingers burst, so that he soon expires. The cascabel or rattle-snake seldom exceeds two feet, or two feet and a half in length; though there are some of another species, which are three and a half. Its colour is brown, variegated with deeper shades of the same tinct; at the end of its tail is the cascabel or rattle, in the form of a garvanzo or French bean-pod, when dried on the plant, and, like that, has five or six divisions, in each

\* They are almost as large as rats; and the inside of the roofs of the out-houses are generally lined with them. — A.

† Or hundred feet. They are very common throughout the warmer regions of America. Common salt is a specific against their bite, as also against the sting of the scorpion. — A.

‡ They are called Cobras by the natives, which is their common name for all kinds of serpents. — A.

of which are several small round bones ; these, at every motion of the snake, rattle, and thence gave rise to its name. Thus nature, which has painted the coral snake with such shining colours, that it may be perceived at a distance, has formed the latter in such a manner, that, as its colours render it difficult to distinguish it from the ground, the rattle might give notice of its approach.

The *culebras de bejuco*, which are very numerous, have their name from their colour and shape resembling the branches of the bejuco, and, as they hang down from that plant, appear as real parts of the bejuco, till a too near approach unhappily discovers the mistake ; and, though their poison be not so active as that of the others, without a speedy application of some specific, it proves mortal. These remedies are perfectly known to the Negroes, Mulattos, and Indians frequenting the woods, and called *curanderos*. But the safest antidote is the *habilla*, already mentioned.

It is not, however, often that these dangerous serpents bite any one, unless, from inadvertence or design, he has been the aggressor. Besides, they are so far from having any extraordinary agility, that they are remarkably torpid, and, as it were, half dead ; so that, were it not for their motion in retiring to hide themselves among the leaves, it would be difficult to determine whether they were dead or alive.

There are few parts of Europe which do not produce the *cientopies* or *scolopendra* ; but at Carthagená they not only swarm, but are of a monstrous size, and the more dangerous, as breeding more commonly in houses than in the fields. They are generally a yard in length, some a yard and a quarter, the breadth about five inches, more or less, according to the length. Their figure is nearly circular, the back and sides covered with hard scales, of a musk colour, tinged with red ; but these scales are so articulated, as not in the least to impede their motion, and at the same time so strong as to defend them against any blow, so that the head is the only place where you can strike them to any purpose. They are also very nimble, and their bite, without timely application, proves mortal ; nor is the patient free from considerable torture, till the medicine has destroyed the malignity of the poison.

The *alacranes*, or scorpions, are not less common, and of different kinds, as black, red, musk colour, and some yellow. The first generally breed in dry rotten wood, and others in the corners of houses, in closets and cupboards. They are of different sizes, the largest about three inches long, exclusive of the tail. The sting also of some is less dangerous than that of others ; that of the black is reckoned the most malignant, though timely care prevents its being fatal. The stings of the other kinds produce fevers, numbness in the hands and feet, forehead, ears, nose and lips, tumours in the tongue, and dimness of sight ; these disorders last generally twenty-four or forty-eight hours, when by degrees the patient recovers. The natives imagine, that a scorpion falling into the water purifies it, and therefore drink it without any examination. They are so accustomed to these insects, that they do not fear them, but readily lay hold of them, taking care not to touch them only in the last vertebræ of the tail, to avoid being stung ; sometimes they cut their tails off and play with them. We more than once entertained ourselves with an experiment of putting a scorpion into a glass vessel, and injecting a little smoke of tobacco, and immediately by stopping it found that its aversion to this smell is such, that it falls into the most furious agitations, till giving itself several repeated stings on the head, it finds relief by destroying itself. Hence we see that its poison has the same effect on itself as on others.

Here is also another insect called *caracol soldado*, or the soldier-snail. From the middle of the body to the posterior extremity it is shaped like the common snail, of a whitish colour and a spiral form : but the other half of the body resembles a crab, both in size

and the disposition of its claws. The colour of this, which is the principal part of its body, is of a light brown. The usual length, exclusive of the tail, is about two inches, and the breadth one and a half. It is destitute both of shell and scale, and the body every where flexible. Its resource against injuries is to seek a snail-shell of a proper size, in which it takes up its habitation. Sometimes it drags this snail-shell with it, and at other times quits it, while it goes out in quest of food; but on the least appearance of danger, it hastens back to the shell, and thrusts itself into it, beginning with its hind part, so that the fore part fills the entrance, while the two claws are employed in its defence, the gripe of which is attended with the same symptoms as the sting of a scorpion. In both cases the patient is carefully kept from drinking any water, which has been known to bring on convulsions; and these always prove fatal.

The inhabitants relate, that when this creature grows too large for making its way into the shell which was its retreat, it retires to the sea coast, in order to find there a larger, where killing the wilk, whose shell best suits him, he takes possession of it; which is indeed the same method it took to obtain its first habitation. This last circumstance, and the desire of seeing the form of such a creature, induced Don George Juan and myself to desire the inhabitants to procure us some; and upon examination, we found all the above-mentioned particulars were really true; except the bite, which we did not choose to experience.

There are several other sorts of insects remaining, which though smaller, yet afford equal reason for admiration to a curious examiner; particularly the infinite variety of mariposas, or butterflies, which though differing visibly in figure, colours, and decorations, we are at a loss to determine which is the most beautiful.

If these are so entertaining to the sight, there are others no less troublesome; so that it would be more eligible to dispense with the pleasure of seeing the former, than to be continually tortured by the latter; as the moschetos, of which large clouds may be seen, especially among the savannahs and manglares, or plantations of mangrove trees, so that the one, as affording the herbage on which they feed, and the other, as the places where they produce their young, are rendered impassible.

There are four principal species of this insect; the first called zancudos, which are the largest; the second the moschetos, differing little or nothing from those of Spain\*; the third gegenes, which are very small and of a different shape, resembling the weevil, about the size of a grain of mustard-seed, and of an ash colour. The fourth are the mantas blancas, or white cloaks, and so very minute that the inflammation of their bite is felt before the insect that caused it is seen. Their colour is known by the infinite numbers of them which fill the air, and from thence they had their name. From the two former, few houses are free. Their sting is followed by a large tumour, the pain of which continues about two hours. The two last, which chiefly frequent fields and gardens, raise no tumour, but cause an insupportable itching. Thus if the extreme heat renders the day troublesome, these imperceptible insects disturb the repose of the night. And though the mosquiteros, a kind of gauze curtains, in some measure defend us from the three former, they are no safeguard against the latter, which make their way between the threads; unless the stuff be of a closer texture, in which case the heat becomes insupportable.

The insect of Carthagená called nigua, and in Peru pique, is shaped like a flea, but almost too small for sight. It is a great happiness that its legs have not the elasticity with those of fleas; for could this insect leap, every animal body would be filled with

\* Or the gnat of England. A.

them; and consequently, both the brute and human species be soon extirpated by the multitudes of these insects. They live amongst the dust, and therefore are most common in filthy places. They insinuate themselves into the legs, the soles of the feet, or toes, and pierce the skin with such subtilty, that there is no being aware of them, till they have made their way into the flesh \*. If they are perceived at the beginning, they are extracted with little pain; but if the head only has pierced through the skin, an incision must be made before it can be taken out. If they are not soon perceived, they make their way through the skin, and take up their lodgings between that and the membrane of the flesh; and sucking the blood, form a nidus or nest, covered with a white and fine tegument, resembling a flat pearl: and the insect is at it were, enshased in one of the faces, with its head and feet outwards, for the convenience of feeding, while the hinder part of the body is within the tunic, where it deposits its eggs; and as the number of these encreases, the nidus enlarges, even to the diameter of a line and a half, or two lines, to which magnitude it generally attains in four or five days. There is an absolute necessity for extracting it: for otherwise it would burst of itself, and by that means scatter an infinite number of germs, resembling nits, in size, shape, and colour, which becoming niguas, would, as it were, undermine the whole foot. They cause an extreme pain, especially during the operation of extracting them: for sometimes they penetrate even to the bone; and the pain, even after the foot is cleared of them, lasts till the flesh has filled up the cavities they had made, and the skin is again closed.

The manner of performing this operation is both tedious and troublesome; the flesh contiguous to the membrane where the eggs of the insect are lodged, is separated with the point of a needle, and those eggs so tenaciously adhere to the flesh and this membrane, that to complete the operation without bursting the tegument, and putting the patient to the most acute pain, requires the greatest dexterity. After separating on every side the small and almost imperceptible fibres, by which it was so closely connected with the membranes and muscles of the part, the perilla, as they term it, is extracted, the dimensions of which are proportional to the time it has existed. If unfortunately it should burst, the greatest care must be used to clear away all the roots, particularly not to leave the principal nigua; as before the wound could be healed, there would be a new brood, further within the flesh; and consequently the cure much more difficult and painful.

The cavity left by the removal of the nidus, must be immediately filled either with tobacco ashes, chewed tobacco, or snuff; and in hot countries, as Carthagera, great care must be taken not to wet the foot for the first two days, as convulsions would ensue; a distemper seldom got over: this consequence has possibly been observed in some, and from thence considered as general †.

The first entrance of this insect is attended with no sensible pain; but the next day, it brings on a fiery itching extremely painful, but more so in some parts than in others. This is the case in extracting it, when the insect gets between the nails and the flesh, or at the extremity of the toes. In the sole of the foot and other parts where the skin is callous, they cause little or no pain.

This insect shows an implacable hatred to some animals, particularly the hog; which it preys on with such voracity, that when their feet come to be scalded, after being killed, they are found full of cavities made by this corroding insect.

\* They seldom insinuate themselves into the legs. A.

† There is no necessity for this precaution, as is well known to the honest tar. The tobacco ashes, &c. entirely destroy the nits or ovaria, if any be left. A.

Minute as this creature is, there are two kinds of it; one venomous, and the other not. The latter perfectly resembles the flea in colour, and gives a whiteness to the membrane where it deposits its eggs. This causes no pain, but what is common in such cases. The former is yellowish, its nidus of an ash colour, and its effects more extraordinary; as when lodged at the extremity of the toes, it violently inflames the glands of the groin, and the pain continues without abatement, till the nigua is extracted, that being the only remedy: after which the swelling subsides, and the pain ceases, those glands corresponding with the foot, where the cause of the pain resided. The true cause of this apparently strange effect I shall not undertake to investigate; the general opinion is, that some small muscles extending from these glands to the feet, being affected by the poison of the bite, communicate it to the glands, whence proceed the pain and inflammation. All I can affirm is, that I have often experienced it, and at first with no small concern; till having frequently observed that these effects ceased on extracting the nigua, I thence concluded it to be the true cause of the disorder. The same thing happened to all the French academicians who accompanied us on this expedition; and particularly to M. de Jussieu, botanist to the King of France, whom frequent experience of these kinds of accidents taught to divide these insects into two kinds.

As the preceding animals and insects chiefly exercise their malignant qualities on the human species, so there are others which damage and destroy the furniture of houses, particularly all kinds of hangings, whether of cloth, linen, silk, gold or silver stuffs, or laces; and indeed every thing, except those of solid metal, where their voracity seems to be wearied out by the resistance. This insect called *comegen*, is nothing more than a kind of moth or maggot; but so expeditious in its depredations, that in a very short time it entirely reduces to dust one or more bales of merchandise where it happens to fasten; and without altering the form, perforates it through and through, with a subtilty which is not perceived till it comes to be handled, and then instead of thick cloth or linen, one finds only small shreds and dust. At all times the strictest attention is requisite to prevent such accidents, but chiefly at the arrival of the galleons; for then it may do immense damage among the vast quantity of goods landed for warehouses, and for sale in the shops. The best, and indeed the only method is, to lay the bales on benches, about half a yard from the ground, and to cover the feet of them with alquitran, or naphtha, the only preservative against this species of vermin; for with regard to wood, it eats into that as easily as into the goods, but will not come near it when covered with naphtha as above.

Neither would this precaution be sufficient for the safety of the goods, without a method of keeping them from touching the walls; and then they are sufficiently secured. This insect is so small, as to be scarcely visible to the naked eye, but of such activity as to destroy all the goods in a warehouse, where it has got footing, in one night's time. Accordingly it is usual that in running the risks of commerce, in goods consigned to Carthagena, the circumstances are specified, and in these are understood to be included the losses that may happen in that city by the *comegen*. This insect infests neither Porto Bello, nor even places nearer Carthagena, though they have so many other things in common with that city; nor is it so much as known among them.

What has been said, will, I hope, be sufficient to give an adequate idea of this country, without swelling the work with trivial observations, or such as have been already published by others. We shall now proceed to treat distinctly of other equally wonderful works of Omnipotence, in this country.

CHAP. VIII. — *Of the esculent Vegetables produced in the Territories of Carthagena, and the Food of the Inhabitants of that City.*

THOUGH Carthagena has not the convenience of being furnished by its soil with the different kinds of European vegetables, it does not want for others, far from being contemptible, and of which the inhabitants eat with pleasure. Even the Europeans, who at their first coming cannot easily take up with them, are not long before they like them so well as to forget those of their own country.

The constant moisture and heat of this climate will not admit of barley, wheat, and other grain of this kind; but produces excellent maize and rice in such abundance, that a bushel of maize sown, usually produces an hundred at harvest. From this grain they make the bollo or bread, used in all this country; they also use it in feeding hogs and fattening poultry. The maize bollo has no resemblance to the bread made of wheat, either in shape or taste. It is made in form of a cake; is of a white colour, and an insipid taste. The method of making it is to soak the maize, and afterwards bruise it between two stones; it is then put into large bins filled with water, where by rubbing and shifting it from one vessel into another, they clear it from its husk; after this it is ground into a paste, of which the bollos are made. These bollos being wrapped up in plantane or vijahua leaves, are boiled in water, and used as bread; but after twenty-four hours, become tough and of a disagreeable taste. In families of distinction the bollo is kneaded with milk, which greatly improves it, but being not thoroughly penetrated by the liquids, it never rises, nor changes its natural colour; so that instead of a pleasing taste, it has only that of the flour of maize.

Besides the bollo\* here is also the casava bread, very common among the negroes, made from the roots of yuca, names, and moniatos. After carefully taking off the upper skin of the root, they grate it, and steep it in water, in order to free it from a strong acrid juice, which is a real poison, particularly that of the moniato. The water being several times shifted, that nothing of this acrimony may remain, the dough is made into round cakes about two feet diameter, and about three or four lines in thickness. These cakes are baked in ovens, on plates of copper, or a kind of brick made for that purpose. It is a nourishing and strengthening food, but very insipid. It will keep so well, that at the end of two months it has the same taste as the first day, except being more dry.

Wheat bread is not entirely uncommon at Carthagena; but, as the flour comes from Spain, the price of it may well be conceived to be above the reach of the generality. Accordingly it is used only by the Europeans settled at Carthagena, and some few Creoles; and by these only with their chocolate and conserves. At all other meals, so strong is the force of a custom imbibed in their infancy, they prefer bollos to wheat bread, and eat honey with casava.

They also make, of the flour of maize, several kinds of pastry, and a variety of foods equally palatable and wholesome; bollo itself being never known to disagree with those who use it.

\* Or cake made of mandioc yams, and sweet potatoes (or camiotos), which they grate and mix together. The bollo is far from insipid, when a proper quantity of the camiole is put in. A.

Besides these roots, the soil produces plenty of camotes, resembling, in taste, Malaga potatoes; but something different in shape, the camotes being generally roundish and uneven. They are both pickled and used as roots with the meat; but, considering the goodness and plenty of this root, they do not improve it as they might.

Plantations of sugar-canes abound to such a degree, as extremely to lower the price of honey: and a great part of the juice of these canes is converted into spirit for the disposing of it. They grow so quick as to be cut twice in a year. The variety of their verdure is a beautiful ornament to the country.

Here are also great numbers of cotton-trees, some planted and cultivated, and these are the best; others spontaneously produced by the great fertility of the country. The cotton of both is spun, and made into several sorts of stuffs, which are worn by the Negroes of the Haciendas, and the country Indians.

Cacao trees also grow in great plenty on the banks of the river Magdalena, and in other situations which that tree delights in; but those in the jurisdiction of Carthagena excel those of the Caracas, Maracaybo, Guayaquil, and other parts, both in size and the goodness of the fruit. The Carthagena cacao or chocolate is little known in Spain, being only sent as presents; for, as it is more esteemed than that of other countries, the greater part of it is consumed in this jurisdiction, or sent to other parts of America. It is also imported from the Caracas, and sent up the country, that of the Magdalena not being sufficient to answer the great demand there is for it in these parts. Nor is it amiss to mix the former with the latter, as correcting the extreme oiliness of the chocolate, when made only with the cacao of the Magdalena. The latter, by way of distinction from the former, is sold at Carthagena by millares, whereas the former is disposed of by the bushel, each weighing one hundred and ten pounds; but that of Maracaybo weighs only ninety-six pounds. This is the most valuable treasure which Nature could have bestowed on this country; though it has carried its bounty still farther, in adding a vast number of delicious fruits which evidently display the exuberance of the soil. Nothing strikes a spectator with greater admiration, than to see such a variety of pompous trees, in a manner emulating each other, through the whole year, in producing the most beautiful and delicious fruits. Some resemble those of Spain; others are peculiar to the country. Among the former, some are indeed cultivated, the latter flourish spontaneously.

Those of the same kind with the Spanish fruits are melons, water-melons, called by the natives Blanciac, grapes, oranges, medlars, and dat. e. The grapes are not equal to those of Spain; but the medlars as far exceed them: with regard to the rest, there is no great difference.

Among the fruits peculiar to the country, the preference, doubtless, belongs to the pine-apple; and accordingly its beauty, smell, and taste, have acquired it the appellation of queen of fruits. The others are the papayas, guanabanas, guayabas, sapotes, mameis, platanos, cocos, and many others, which it would be tedious to enumerate, especially as these are the principal; and, therefore, it will be sufficient to confine our descriptions to them.

The ananas or pine-apple, so called from its resembling the fruit or the cones of the European pine-tree, is produced by a plant nearly resembling the aloe, except that the leaves of the pine-apple are longer, but not so thick, and most of them stand near the ground in a horizontal position; but as they approach nearer the fruit, they diminish in length, and become less expanded. This plant seldom grows to above three feet in height, and terminates in a flower resembling a lily, but of so elegant a crimson, as even to dazzle the eye. The pine-apple makes its first appearance in the centre of the

flower, about the size of a nut; and as this increases, the lustre of the flower fades, and the leaves expand themselves to make room for it, and secure it both as a base and ornament. On the top of the apple itself, is a crown or tuft of leaves, like those of the plant, and of a very lively green. This crown grows in proportion with the fruit, till both have attained their utmost magnitude, and hitherto they differ very little in colour. But as soon as the crown ceases to grow, the fruit begins to ripen, and its green changes to a bright straw colour: during this gradual alteration of colour, the fruit exhales such a fragrantcy as discovers it, though concealed from sight. While it continues to grow, it shoots forth on all sides little thorns, which, as it approaches towards maturity, dry and soften, so that the fruit is gathered without the least inconvenience. The singularities which concentrate in this product of nature, cannot fail of striking a contemplative mind with admiration. The crown, which was to it a kind of apex, while growing in the woods, becomes itself, when sown, a new plant; and the stem, after the fruit is cut, dies away, as if satisfied with having answered the intention of nature in such a product; but the roots shoot forth fresh stalks, for the further increase of so valuable a species.

The pine-apple, though separated from the plant, retains its fragrantcy for a considerable time, when it begins to decay. The odour of it not only fills the apartment where the fruit is kept, but even extends to the contiguous rooms. The general length of this delicious fruit is from five to seven inches, and the diameter near its basis three or four, diminishing regularly, as it approaches to its apex. For eating, it is peeled and cut into round slices, and is so full of juice, that it entirely dissolves in the mouth. Its flavour is sweet, blended with a delightful acidity. The rind, infused in water, after a proper fermentation, produces a very cooling liquor, and still retains all the properties of the fruit.

The other fruits of this country are equally valuable in their several kinds; and some of them also distinguished for their fragrantcy, as the guayaba, which is, besides, both pectoral and astringent.

The most common of all are, the platanos, the name of which, if not its figure and taste, is known in all parts of Europe\*. These are of three kinds. The first is the banana, which is so large as to want but little of a foot in length. These are greatly used, being not only eaten as bread, but also an ingredient in many made dishes. Both the stone and kernel are very hard; but the latter has no noxious quality. The second kind are the dominicos, which are neither so long nor so large as the bananas, but of a better taste; they are used as the former.

The third kind are the guineos, less than either of the former, but far more palatable, though not reckoned so wholesome by the natives, on account of their supposed heat. They seldom exceed four inches in length; and their rind, when ripe, is yellower, smoother, and brighter, than that of the two other kinds. The custom of the country is to drink water after eating them; but the European sailors, who will not be confined in their diet, but drink brandy with every thing they eat, make no difference between this fruit and any other; and to this intemperance may, in some measure, be attributed the many diseases with which they are attacked in this country, and not a few sudden deaths; which are, indeed, apt to raise, in the survivors, concern for their companions for the

\* The plantane and banana are, I believe, little known in Europe by name. The first two sorts the Author describes, are better known by the names of the long and short plantane, and the last by the name of banana, than by those he has given them. They have neither stone nor kernel, but a very small seed, as small as that of thyme, which lies in the fruit in rows like that of a cucumber, to which the banana bears the greatest resemblance of any thing in England; only it is smooth, and not so large. A.

present; but they soon return to the same excesses, not remembering, or rather choosing to forget, the melancholy consequences.

By what we could discover, it is not the quality of the brandy which proves so pernicious, but the quantity; some of our company making the experiment of drinking sparingly of this liquor after eating the guineos, and repeating it several times without the least inconvenience. One method of dressing them, among several others, is to roast them in their rind, and afterwards slice them, adding a little brandy and sugar to give them a firmness. In this manner we had them every day at our table, and the Creoles themselves approved of them.

The papayas are from six to eight inches in length, and resemble a lemon, except that, towards the stalk, they are somewhat less than at the other extremity. Their rind is green, the pulp white, very juicy, but stringy, and the taste a gentle acid, not pungent. This is the fruit of a tree, and not, like the pine-apple and platano, the product of a plant. The guayaba, and the following, are also the fruit of trees.

The guanabana approaches very near the melon, but its rind is much smoother, and of a greenish colour. Its pulp is of a yellowish cast, like that of some melons, and not very different in taste. But the greatest distinction between these two fruits is a nauseous smell in the guanaba. The seed is round, of a shining dark colour, and about two lines in diameter. It consists of a very fine transparent pellicle, and a kernel solid and juicy. The smell of this little seed is much stronger and more nauseous. The natives say, that, by eating this seed, nothing is to be apprehended from the fruit, which is otherwise accounted heavy and hard of digestion; but, though the seed has no ill taste, the stomach is offended at its smell.

The sapotes are round, about two inches in circumference, the rind thin and easily separated from the fruit; the colour brown, streaked with red. The flesh is of a bright red, with little juice, viscid, fibrous, and compact. It cannot be classed among delicious fruits, though its taste is not disagreeable. It contains a few seeds, which are hard and oblong.

The mameis are of the same colour with the sapotes, except that the brown is something lighter. Their rind also requires the assistance of a knife, to separate it. The fruit is very much like the brunion plum, but more solid, less juicy, and, in colour, more lively. The stone is proportioned to the largeness of the fruit, which is betwixt three and four inches in diameter, almost circular, but with some irregularities. The stone is an inch and a half in length, and its breadth, in the middle, where it is round, one inch. Its external surface is smooth, and of a brown colour, except on one side, where it is vertically crossed by a streak resembling the slice of a melon in colour and shape. This streak has neither the hardness nor smoothness of the rest of the surface of the stone, which seems in this place covered, and something scabrous.

The coco is a very common fruit, and but little esteemed; all the use made of it being to drink the juice whilst fluid, before it begins to curdle. It is, when first gathered, full of a whitish liquor, as fluid as water, very pleasant and refreshing. The shell which covers the cocoa nut, is green on the outside, and white within; full of strong fibres, traversing it on all sides in a longitudinal direction, but easily separated with a knife. The coco is also whitish at that time, and not hard; but, as the consistency of its pulp increases, the green colour of its shell degenerates into yellow. As soon as the kernel has attained its maturity, this dries and changes to brown; then becomes fibrous and so compact, as not to be easily opened and separated from the coco,

to which some of those fibres adhere. From the pulp of these cocos is drawn a milk like that of almonds, and, at Carthagena, is used in dressing rice.

Though lemons, of the kind generally known in Europe, and of which such quantities are gathered in some parts of Spain, are very scarce; yet there are such numbers of another kind, called futes or limes, that the country is, in a manner, covered with the trees that produce them, without care or culture. But the tree and its fruit are both much less than those of Spain, the height of the former seldom exceeding eight or ten feet; and from the bottom, or a little above, divides into several branches, whose regular expansion forms a very beautiful tuft. The leaf, which is of the same shape with that of the European lemon, is less, but smoother; the fruit does not exceed a common egg in magnitude; the rind very thin; and it is more juicy, in proportion, than the lemon of Europe, and infinitely more pungent and acid; on which account, the European physicians pronounce it detrimental to health; though, in this country, it is a general ingredient in their made dishes. There is one singular use to which this fruit is applied in cookery. It is a custom with the inhabitants not to lay their meat down to the fire above an hour at farthest, before dinner or supper; this is managed by steeping it for some time in the juice of these limes, or squeezing three or four, according to the quantity of meat, into the water, if they intend boiling; by which means, the flesh becomes so softened, as to admit of being thoroughly dressed in this short space. The people here value themselves highly on this preparative, and laugh at the Europeans for spending a morning about what they dispatch so expeditiously.

This country abounds in tamarinds; a large branchy tree, the leaf of a deep green; the pods of a middle size, and flat; the pulp of a dark brown, a pleasant taste, very fibrous, and is called by the same name as the tree itself. In the middle of the pulp is a hard seed, or stone, six or eight lines in length, to two in breadth. Its taste is an acid sweetness, but the acid predominates; and it is only used when dissolved in water as a cooling liquor, and then but moderately, and not for many days successively; its acidity and extreme coldness weakening and debilitating the stomach.

Another fruit, called mani, is produced by a small plant. It is of the size and shape of a pine-cone; and eaten either roasted, or as a conserve. Its quality is directly opposite to that of the former, being hot in the highest degree; and, consequently, not very wholesome in this climate.

The products which are not natural here, besides wheat, barley, and other grain, are grapes, almonds, and olives: consequently the country is destitute of wine, oil, and raisins, with which they are supplied from Europe: this necessarily renders them very dear; sometimes they are not to be had at any price. When this is the case with regard to wine, great numbers suffer in their health; for, as all those who do not accustom themselves to drink brandy at their meals, which are far the greater number, except the Negroes, being used to this wine, their stomach, for want of it, loses their digestive faculty, and thence are produced epidemical distempers. This was an unhappy circumstance at our arrival, when wine was so extremely scarce, that mass was said only in one church.

The want of oil is much more tolerable; for, in dressing either fish or flesh, they use hog's lard, of which they have so great a quantity, as to make it an ingredient in their soup, which is very good, and, considering the country, not at all dear: instead of lamps too, they use tallow candles: so that they want oil only for their salads.

From such plenty of flesh, fowl, and fruits, an idea may be formed of the luxuriance of the tables in this country; and, indeed, in the houses of persons of wealth and distinction, they are served with the greatest decency and splendour. Most of the dishes

are dressed in the manner of this country, and differ considerably from those of Spain; but some of them are so delicate, that foreigners are no less pleased with them, than the gentlemen of the country. One of their favourite dishes is the *aji-aco*, there being scarcely a genteel table without it. It is a mixture of several ingredients, which cannot fail of making an excellent ragout. It consists of pork fried, birds of several kinds, plantanes, maize paste, and several other things highly seasoned with what they call pimento, or aji.

The inhabitants of any figure generally make two meals a-day, besides another light repast. That in the morning, their breakfast, is generally composed of some fried dish, pastry of maize flour, and things of that nature, followed by chocolate. Their dinner consists of a much greater variety; but at night the regale is only of sweetmeats and chocolate. Some families, indeed, affect the European custom of having regular suppers, though they are generally looked upon at Carthagena as detrimental to health. We found, however, no difference as to ourselves; and, possibly, the ill effects flow from excess in the other meals.

CHAP. IX. — *Of the Trade of Carthagena, and other Countries of America, on the Arrival of the Galleons and other Spanish Ships.*

THE bay of Carthagena is the first place in America at which the galleons are allowed to touch; and thus it enjoys the first fruits of commerce, by the public sales made there. These sales, though not accompanied with the formalities observed at Porto Bello fair, are very considerable. The traders of the inland provinces of Santa Fe, Popayan, and Quito, lay out not only their own stocks, but also the monies intrusted to them by commissions, for several sorts of goods, and those species of provisions which are most wanted in their respective countries. The two provinces of Santa Fe and Popayan have no other way of supplying themselves with the latter, than from Carthagena. Their traders bring gold and silver in specie, ingots, and dust, and also emeralds; as, besides the silver mines worked at Santa Fe, and which daily increase by fresh discoveries, there are others which yield the finest emeralds. But the value of these gems being now fallen in Europe, and particularly in Spain, the trade of them, formerly so considerable, is now greatly lessened, and, consequently, the reward for finding them. All these mines produce great quantities of gold, which is carried to Choco, and there pays one-fifth to the King, at an office erected for that purpose.

This commerce was for some years prohibited, at the solicitation of the merchants of Lima, who complained of the great damages they sustained by the transportation of European merchandises from Quito to Peru; which being thus furnished, while the traders of Lima were employed at the fairs of Panama and Porto Bello, at their return, they found, to their great loss, the price of goods very much lowered. But it being afterwards considered, that restraining the merchants of Quito and other places from purchasing goods at Carthagena, on the arrival of the galleons, was of great detriment to those provinces, it was ordered, in regard to both parties, that, on notice being given in those provinces, of the arrival of the galleons at Carthagena, all commerce, with regard to European commodities, should cease between Quito and Lima, and that the limits of the two audiences should be those of their commerce: that is, that Quito should not trade beyond the territories of Loja and Zamora; nor Lima, beyond those of Piura, one of the jurisdictions of its audience. By this equitable expedient, those provinces were, in time, supplied with the goods they wanted, without any detriment

to the trade of Peru. This regulation was first executed in 1730, on the arrival of the squadron commanded by Don Manuel Lopez Pintado, who had orders, from the King, to place commerce on this footing, provided it bid fair to answer the intentions of both parties, and that no better expedient could be found. Accordingly this was carried into execution; being not only well adapted to the principal end, but also, during the stay of the galleons at Carthagena, procured business for the Cargadores\*, in the sale of their goods; and thus made them ample amends for their expences.

During the prohibition, the merchants of Carthagena were obliged to have recourse to the flotilla of Peru, in their course from Guayaquil to Panama; or to wait the return of the galleons to Carthagena, and, consequently, purchase only the refuse of Porto Bello-fair; both which were, doubtless, considerable grievances to them. If they pursued the first, they were obliged to travel across the whole jurisdiction of Santa Fe to Guayaquil, which was a journey of above four hundred leagues, with considerable sums of money, which having disposed of in merchandises, the charges of their return were still greater. In fine, the losses inevitable in such a long journey, where rapid rivers, mountains, and bridges, were to be crossed, and their merchandises exposed to a thousand accidents, rendered this method utterly impracticable; so that they were obliged to content themselves with the remains of the fair; though it was very uncertain whether these would be sufficient to answer the demand. Besides, the inland merchants ran the hazard of not meeting at Carthagena with goods sufficient, in quality and quantity, to answer their charges; and were sometimes actually obliged to return with the money, and the vexation of a fruitless, though expensive, journey. These inconveniences produced a repeal of the prohibition, and commerce was placed on the present equitable footing.

This little fair at Carthagena, for so it may be called, occasions a great quantity of shops to be opened, and filled with all kinds of merchandise; the profit partly resulting to Spaniards who come in the galleons, and are either recommended to, or are in partnership with, the Cargadores; and partly to those already settled in that city. The Cargadores furnish the former with goods, though to no great value, in order to gain their custom; and the latter, as persons whom they have already experienced to be good men; and both in proportion to the quickness of their sale. This is a time of universal profit; to some by letting lodgings and shops, to some by the increase of their respective trades, and to others by the labour of their Negro slaves, whose pay also is proportionally increased, as they do more work in this busy time. By this brisk circulation through all the several ranks, they frequently get a surplus of money beyond what is sufficient for providing themselves with necessaries. And it is not uncommon for slaves, out of their savings, and after paying their masters the daily tribute, to purchase their freedoms.

This affluence extends to the neighbouring villages, estancias, and the most wretched chacaras, of this jurisdiction; for, by the increase of strangers to a fourth, third, and sometimes one-half, of the usual number of people, the consumption, and consequently the price of provisions, advances, which is, of course, no small advantage to those who bring them to market.

This commercial tumult lasts while the galleons continue in the bay; for they are no sooner gone, than silence and tranquillity resume their former place. This the inhabitants of Carthagena call *Tiempo muerto*, the dead time; for, with regard to the trade carried on with the other governments, it is not worth notice. The greater part of it

\* Persons who bring European goods for sale.

consists in some bilanders from La Trinidad, the Havannah, and St. Domingo, bringing leaf-tobacco, snuff, and sugars; and returning with Magdalena cacao, earthen-ware, rice, and other goods wanted in those islands: and even of these small vessels, scarcely one is seen for two or three months. The same may be said of those which go from Carthagena to Nicaragua, Vera Cruz, Honduras, and other parts: but the most frequent trips are made to Porto Bello, Chagra, or Santa Martha. The reason why this commerce is not carried on more briskly is, that most of these places are naturally provided with the same kind of provisions, and consequently are under no necessity of trafficking with each other.

Another branch of the commerce of Carthagena, during the tiempo muerto, is carried on with the towns and villages of its jurisdiction, from whence are brought all kinds of necessaries, and even the luxuries of life, as maize, rice, cotton, live hogs, tobacco, plantanes, birds, casava, sugar, honey, and cacao, most of which is brought in canoes and champanas, a sort of boats proper for rivers. The former are a kind of coasters, and the latter come from the rivers Magdalena, Sinu, and others. Their returns consist of goods for apparel, with which the shops and warehouses furnish themselves from the galleons, or from prizes taken on the coast by the King's frigates, or privateers.

No eatable pays any duty to the King; and every person may, in his own house, kill any number of pigs he thinks he shall sell that day: no salted pork is eaten, because it is soon corrupted by the excessive heat of the place. All imports from Spain, as brandy, wine, oil, almonds, raisins, pay a duty, and are afterwards sold without any farther charge, except what is paid by retailers, as a tax for their shop or stall.

Besides these goods, which keep alive this slender inland commerce, here is an office for the assiento of Negroes, whither they are brought, and, as it were, kept as pledges, till such persons as want them on their estates come to purchase them, negroes being generally employed in husbandry and other laborious country works. This, indeed, gives some life to the trade of Carthagena, though it is no weighty article. The produce of the royal revenues in this city not being sufficient to pay and support the governor, garrison, and a great number of other officers, the deficiency is remitted from the treasurers of Santa Fé and Quito, under the name of Situado, together with such monies as are requisite for keeping up the fortifications, furnishing the artillery, and other expences, necessary for the defence of the place and its forts.

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## BOOK II.

### *Voyage from Carthagena to Porto Bello.*

#### CHAP. I. — *General Winds and Currents between Carthagena and Porto Bello.*

WHEN the French frigate had watered, and was ready for sailing, we embarked on board her, on the 24th of November 1735; the next day we put to sea, and on the 20th of the same month, at half an hour after five in the evening, came to an anchor

at the mouth of Porto Bello harbour, in fourteen fathom water; Castle Todo Fierro, or the iron castle, bearing north-east four degrees northerly; and the south point of the harbour east one quarter northerly. The difference of longitude between Carthagena and Punta de Nave, we found to be  $4^{\circ} 24'$ .

We had steered west-north-west and west one quarter northerly, till the ship was observed to be in the eleventh degree of latitude, when we stood to the west. But when our difference of longitude from Carthagena was  $3^{\circ} 10'$ , we altered our course to south-west and south, a quarter westerly, which, as already observed, on the 29th of November, at five in the evening, brought us in sight of Punta de Nave, which being south of us, we were obliged to make several tacks before we could get into the harbour.

In this passage we met with fresh gales. The two first days at north quarter easterly, and the other days till we made the land at north-east, a high sea running the whole time. But we were no sooner in sight of Punta de Nave, than it became calm, and a breeze from the land sprung up, which hindered us from getting that day into the harbour. It also continued contrary on the 30th; but, by the help of our oars, and being towed, we got at last to the anchoring-place, where we went on shore, with our baggage and instruments necessary for beginning our observations. But this being the most proper place for mentioning the winds which prevail in this passage along the coast, and that of Carthagena, we shall bestow some paragraphs on them.

There are two sorts of general winds on these coasts; the one called Brisas, which blow from the north-east, and the other called Vendabales, which come from the west, and west-south-west. The former set in about the middle of November, but are not settled till the beginning or middle of December, which is here the summer, and continue blowing fresh and invariable till the middle of May; they then cease, and are succeeded by the vendabales, but with this difference, that these do not extend farther than  $12$  or  $12\frac{1}{2}$  degrees of latitude, beyond which the brisas constantly reign, though with different degrees of strength, and veer sometimes to the east, and at other times to the north.

The season of the vendabales is attended with violent storms of wind and rain; but they are soon over, and succeeded by a calm equally transitory; for the wind gradually freshens, especially near the land, where these phenoma are more frequent. The same happens at the end of October and beginning of November, the general winds not being settled.

In the season of the brisas, the currents, as far as  $12^{\circ}$  or  $12^{\circ} 30'$  of latitude, set to the westward, but with less velocity than usual at the changes of the moon, and greater at the full. But beyond that latitude they usually set north-west. Though this must not be understood without exception; as, for instance, near islands or shoals, their course becomes irregular: sometimes they flow through long channels, and sometimes they are met by others; all which proceeds from their several directions, and the bearings of the coasts; so that the greatest attention is necessary here, the general accounts not being sufficient to be relied on; for, though they have been given by pilots who have for twenty or thirty years used this navigation, in all kinds of vessels, and therefore have acquired a thorough knowledge, they themselves confess that there are places where the currents observe no kind of regularity, like those we have mentioned.

When the brisas draw near their period, which is about the beginning of April, the currents change their course, running to the eastward for eight, ten, or twelve leagues from the coast, and thus continue during the whole season of the vendabales; on which account, and the winds being at this season contrary for going from Carthagena to Porto Bello, it is necessary to sail to twelve or thirteen degrees of latitude, or

even sometimes farther; when being without the verge of those winds, the voyage is easily performed.

While the brisas blow strongest, a very impetuous current sets into the gulf of Darien, and out of it during the season of the vendabales. This second change proceeds from the many rivers which discharge themselves into it, and at that time being greatly swelled by the heavy rains, peculiar to the season; so that they come down with such rapidity, as violently to propel the water out of the gulf. But in the season of the brisas these rivers are low, and so weak, that the current of the sea overcomes their resistance, fills the gulf, and returns along the windings of the coast.

## CHAP. II. — *Description of the Town of St. Philip de Porto Bello.*

THE town of St. Philip de Porto Bello, according to our observations, stands in  $9^{\circ} 34' 35''$  north latitude; and by the observations of Father Feuillée, in the longitude of  $277^{\circ} 50'$  from the meridian of Paris, and  $296^{\circ} 41'$  from the Pico of Teneriffe. This harbour was discovered on the 2d of November 1502 by Christopher Columbus, who was so charmed with its extent, depth, and security, that he gave it the name of Porto Bello, or the fine harbour. In the prosecution of his discoveries, he arrived at that which he called Bastimentos, where, in 1510, was founded by Diego de Niqueza the city of Nombre de Dios, "the Name of God;" so called from the commander having said to his people on their landing, "Here we will make a settlement in the name of God," which was accordingly executed. But this place was in its infancy entirely destroyed by the Indians of Darien. Some years after, the settlement was repaired, and the inhabitants maintained their ground till 1584, when orders arrived from Philip II. for their removing to Porto Bello, as much better situated for the commerce of that country.

Porto Bello was taken and plundered by John Morgan, an English adventurer, who infested those seas; but in consideration of a ransom, he spared the forts and houses.

The town of Porto Bello stands near the sea, on the declivity of a mountain which surrounds the whole harbour. Most of the houses are built of wood. In some the first story is of stone, and the remainder of wood. They are about one hundred and thirty in number; most of them large and spacious. The town is under the jurisdiction of a governor, with the title of lieutenant-general; being such under the president of Panama, and the term of his post is without any specified limitation. He is always a gentleman of the army, having under him the commandants of the forts that defend the harbour; whose employments are for life.

It consists of one principal street, extending along the strand, with other smaller crossing it, and running from the declivity of the mountain to the shore, together with some lanes, in the same direction with the principal street, where the ground admits of it. Here are two large squares, one opposite to the custom-house, which is a structure of stone, contiguous to the quay; the other opposite the great church, which is of stone, large, and decently ornamented, considering the smallness of the place. It is served by a vicar and other priests, natives of the country.

Here are two other churches, one called Nuestra Signora de la Merced, with a convent of the same order; the other St. Juan de Dios; which, though it bears the title of an hospital, and was founded as such, is very far from being so in reality. The church of La Merced is of stone, but mean and ruinous, like the convent, which is

also decayed: so that wanting the proper conveniences for the religious to reside in, they live in the town dispersed in private houses.

That of St. Juan de Dios is only a small building like an oratory, and not in better condition than that of La Merced. Its whole community consists of a prior, chaplain, and another religious, and sometimes even of less: so that its extent is very small, since properly speaking, it has no community: and the apartments intended for the reception of patients consists only of one chamber, open to the roof, without beds or other necessaries. Nor are any admitted but such as are able to pay for their treatment and diet. It is therefore of no advantage to the poor of the place; but serves for lodging sick men belonging to the men of war which come hither, being provided with necessaries from the ships, and attended by their respective surgeons, lodging-room being the only thing afforded them by this nominal hospital.

At the east end of the town, which is the road to Panama, is a quarter called Guiney, being the place where all the negroes of both sexes, whether slaves or free, have their habitations. This quarter is very much crowded when the galleons are here, most of the inhabitants of the town entirely quitting their houses for the advantage of letting them, while others content themselves with a small part in order to make money of the rest. The mulattos and other poor families also remove, either to Guiney, or to cottages already erected near it, or built on this occasion. Great numbers of artificers from Panama likewise, who flock to Porto Bello to work at their respective callings, lodge in this quarter for cheapness.

Towards the sea, in a large track between the town and Gloria castle, barracks are also erected, and principally filled with the ships' crews; who keep stalls of sweetmeats, and other kinds of eatables brought from Spain. But at the conclusion of the fair, the ships put to sea, and all these buildings are taken down, and the town returns to its former tranquillity and emptiness.

By an experiment we made with the barometer in a place a toise above the level of the sea, the height of the mercury was twenty-seven inches eleven lines and a half.

### CHAP. III. — *Description of Porto Bello Harbour.*

THE name of this port indicates its being commodious for all sorts of ships or vessels, great or small; and though its entrance is very wide, it is well defended by Fort St. Philip de Todo Fierro. It stands on the north point of the entrance, which is about six hundred toises broad, that is, a little less than the fourth part of a league; and the south side being full of rifes of rocks, extending to some distance from the shore, a ship is obliged to stand to the north, though the deepest part of the channel is in the middle of the entrance, and thus continues in a straight direction, having nine, ten, or fifteen fathom water, and a bottom of clayey mud, mixed with chalk and sand.

On the south side of the harbour, and opposite to the anchoring-place, is a large castle, called Saint Jago de la Gloria, to the east of which, at the distance of about one hundred toises, begins the town, having before it a point of land projecting into the harbour. On this point stood a small fort called St. Jerome, within ten toises of the houses. All these were demolished by the English admiral Vernon, who with a numerous naval force\*, in 1739, made himself master of this port; having found it

\* The numerous naval force mentioned by our author, consisted we know of six ships only.

so unprovided with every thing, that the greater part of the artillery, especially that of the castle de Todo Fierro, or iron castle, was dismounted for want of carriages, part of the few military stores unserviceable, and the garrison short of its complement even in time of peace. The governor of the city, Don Bernardo Gutierrez de Bocanegra, was also absent at Panama, on some accusation brought against him. Thus the English meeting no resistance, easily succeeded in their design upon this city, which surrendered by capitulation.

The anchoring-place for the large ships is north-west of Gloria castle, which is nearly the centre of the harbour; but lesser vessels which come farther up, must be careful to avoid a sand-bank, lying one hundred and fifty toises from St. Jerome's fort, or point, bearing from it west one quarter northerly; and on which there is only a fathom and a half, or at most, two fathom water.

North-west of the town is a little bay, called la Caldera, or the kettle, having four fathom and a half water; and is a very proper place for careening ships and vessels, as, besides its depth, it is perfectly defended from all winds. In order to go into it, you must keep pretty close to the western shore till about a third part of the breadth of the entrance, where you will have five fathom water (whilst on the eastern side of the same entrance, there is not above two or three feet), and then steer directly towards the bottom of the bay. When the ships are in, they may moor with four cables east and west, in a small basin formed by the Caldera; but care must be taken to keep them always on the western side.

North-east of the town is the mouth of a river called Cascajel, which affords no fresh water within a quarter of a league or upwards from its mouth; and it is not uncommon to see in it Caymanes, or alligators.

The tides are here irregular; and in this particular, as well as that of the winds, there is no difference between this harbour and that of Carthagena; except that here the ships must always be towed in, being either becalmed, or the wind directly against them.

From observations we made, both by the pole-star and the sun's azimuth, we found the variation of the needle in this harbour to be  $8^{\circ} 4'$  easterly.

Among the mountains which surround the whole harbour of Porto Bello, beginning from St. Philip de Todo Fierro, or the iron castle (which is situated on their declivity), and without any decrease of height, extends to the opposite point, one is particularly remarkable for its superior loftiness, as if designed to be the barometer of the country, by foretelling every change of weather. This mountain, distinguished by the name of Capiro, stands at the utmost extremity of the harbour, in the road to Panama. Its top is always covered with clouds of a density and darkness seldom seen in those of this atmosphere; and from these, which are called the capillo or cap, has possibly been corruptly formed the name of Monte Capiro. When these clouds thicken, increase their blackness, and sink below their usual station, it is a sure sign of a tempest; while on the other hand, their clearness and ascent as certainly indicate the approach of fair weather. It must however be remembered, that these changes are very frequent and very sudden. It is also seldom that the summit is ever observed clear from clouds; and when this does happen, it is only as it were, for an instant.

The jurisdiction of the governor of Porto Bello is limited to the town and the forts; the neighbouring country, over which it might be extended, being full of mountains covered with impenetrable forests, except a few vallies, in which are thinly scattered some farms or Haciendas; the nature of the country not admitting of farther improvements.

CHAP. IV. — *Of the Climate of Porto Bello, and the Distempers which prove so fatal to the Crews of the Galleons.*

THE inclemency of the climate of Porto Bello is sufficiently known all over Europe. Not only strangers who come thither are affected by it, but even the natives themselves suffer in various manners. It destroys the vigour of nature, and often untimely cuts the thread of life. It is a current opinion, that formerly, and even not above twenty years since, parturition was here so dangerous, that it was seldom any women did not die in child-bed. As soon therefore as they had advanced three or four months in their pregnancy, they were sent to Panama, where they continued till the danger of delivery was past. A few indeed had the firmness to wait their destiny in their own houses; but much the greater number thought it more advisable to undertake the journey, than to run so great a hazard of their lives.

The excessive love which a lady had for her husband, blended with a dread that he would forget her during her absence, his employment not permitting him to accompany her to Panama, determined her to set the first example of acting contrary to this general custom. The reasons for her fear were sufficient to justify her resolution to run the risk of a probable danger, in order to avoid an evil which she knew to be certain, and must have embittered the whole remainder of her life. The event was happy; she was delivered, and recovered her former health; and the example of a lady of her rank did not fail of inspiring others with the like courage, though not founded on the same reasons; till, by degrees, the dread which former melancholy cases had impressed on the mind, and gave occasion to this climate's being considered as fatal to pregnant women, was entirely dispersed.

Another opinion equally strange is, that the animals from other climates, on their being brought to Porto Bello, cease to procreate. The inhabitants bring instances of hens brought from Panama or Carthagena, which immediately on their arrival grew barren, and laid no more eggs; and even at this very time, the horned cattle sent from Panama, after they have been here a short time, lose their flesh so as not to be eatable; though they do not want for plenty of good pasture. It is certain that there are no horses or asses bred here, which tends to confirm the opinion that this climate checks the generation of creatures produced in a more benign or less noxious air. However, not to rely on the common opinion, we inquired of some intelligent persons, who differed but very little from the vulgar, and even confirmed what they asserted, by many known facts, and experiments performed by themselves.

The liquor in Mr. Reaumur's thermometer, on the 4th of December 1735, at six in the morning, stood at 1021, and at noon rose to 1023.

The heat here is excessive, augmented by the situation of the town, which is surrounded by high mountains, without any interval for the winds, whereby it might be refreshed. The trees on the mountains stand so thick, as to intercept the rays of the sun; and, consequently, hinder them from drying the earth under their branches: hence copious exhalations, which form large clouds, and precipitate in violent torrents of rain; these are no sooner over, than the sun breaks forth afresh, and shines with its former splendour; though scarce has the activity of his rays dried the surface of the ground not covered by the trees, when the atmosphere is again crowded by another collection of thick vapours, and the sun again concealed. Thus it continues during the whole day: the night is subject to the like vicissitudes; but without the least diminution of heat in either.

These

These torrents of rain, which, by their suddenness and impetuosity, seem to threaten a second deluge, are accompanied with such tempests of thunder and lightning, as must daunt even the most resolute: this dreadful noise is prolonged by repercussions from the caverns of the mountains, like the explosion of a cannon, the rumbling of which is heard for a minute after. To this may also be added the howlings and shrieks of the multitudes of monkeys of all kinds, which live in the forests of the mountains, and which are never louder than when a man of war fires the morning and evening gun, though they are so much used to it.

This continual inclemency, added to the fatigue of the seamen in unloading the ships, carrying the goods on shore in barges, and afterwards drawing them along on sledges, causes a very profuse perspiration, and, consequently, renders them weak and faint; and they, in order to recruit their spirits, have recourse to brandy, of which there is, on these occasions, an incredible consumption. The excessive labour, immoderate drinking, and the inclemency and the unhealthfulness of the climate, must jointly destroy the best constitutions, and produce those deleterious diseases so common in this country. They may well be termed deleterious; for the symptoms of all are fatal, the patients being too much attenuated to make any effectual resistance; and hence epidemics and mortal distempers are so very common.

It is not the seamen alone who are subject to these diseases; others, strangers to the seas, and not concerned in the fatigues, are attacked by them; and, consequently, is a sufficient demonstration that the other two are only collateral, though they tend both to spread and inflame the distemper; it being evident, that when the fluids are disposed to receive the seeds of the distemper, its progress is more rapid, and its attacks more violent. On some occasions, physicians have been sent for from Carthagena, as being supposed to be better acquainted with the properest methods of curing the distempers of this country, and, consequently, more able to recover the seamen; but experience has shewn, that this intention has been so little answered, that the galleons or other European ships, which stay any time here, seldom depart, without burying half, or, at least, a third of their men; and hence this city has, with too much reason, been termed the grave of the Spaniards; but it may, with much greater propriety, be applied to those of other nations who visit it. This remark was sufficiently confirmed by the havoc made among the English, when their fleet, in 1726, appeared before the port, with a view of making themselves masters of the treasure brought thither from all parts to the fair held at the arrival of the galleons, which, at that time, by the death of the Marquis Grillo, were commanded by Don Francisco Cornejo, one of those great officers whose conduct and resolution have done honour to the navy of Spain. He ordered the ships under his command to be moored in a line within the harbour; and erected, on the entrance, a battery, the care of which he committed to the officers of the ships: or rather, indeed, superintended it himself, omitting no precaution, but visiting every part in person. These preparatives struck such a consternation into the English fleet, though of considerable force, that, instead of making any attempt, they formed only a blockade, depending on being supplied with provisions from Carthagena, and that famine would at length oblige the Spaniards to give up what they at first intended to acquire by force; but when the admiral thought himself on the point of obtaining his ends, the inclemency of the season declared itself among his ships' companies, sweeping away such numbers, that in a short time he was obliged to return to Jamaica, with the loss of above half his people.

But, notwithstanding the known inclemency of the climate of Porto Bello, and its general fatality to Europeans, the squadron of 1730 enjoyed there a good state of health, though

though the fatigues and irregularities among the seamen were the same: nor was there any perceivable change in the air. This happy singularity was attributed to the stay of the Squadron at Carthagena, where they passed the time of the epidemia, by which their constitutions were better adapted to this climate; and hence it appears, that the principal cause of these distempers flows from the constitutions of the Europeans not being used to it; and thus they either die, or become habituated to it, like the natives, Creoles, and other inhabitants.

#### CHAP. V. — *Account of the Inhabitants and Country about Porto Bello.*

IN several particulars there is no essential difference between Carthagena and Porto Bello; so that I shall only mention those peculiar to the latter; and add some observations, tending to convey a more exact knowledge of this country.

The number of the inhabitants of Porto Bello, by reason of its smallness, and the inclemency of its climate, is very inconsiderable, and the greater part of these, Negroes and Mulattos, there being scarce thirty white families; those, who by commerce or their estates are in easy circumstances, removing to Panama. So that those only stay at Porto Bello, whose employments oblige them to it; as the governor or lieutenant-general, the commanders of the forts, the civil officers of the crown, the officers and soldiers of the garrisons, the alcaldes in office and of the hermandad, and the town-clerk. During our stay here, the garrisons of the forts consisted of about one hundred and twenty-five men, being detachments from Panama; and these, though coming from a place so near, are affected to such a degree, that in less than a month they are so attenuated, as to be unable to do any duty, till custom again restores them to their strength. None of these, or of the natives of the country, above the Mulatto class, ever settle here, thinking it a disgrace to live in it: a certain proof of its unhealthiness, since those to whom it gave birth forsake it.

In manners and customs, the inhabitants of Porto Bello resemble those of Carthagena, except that the latter are more free and generous, those in the parts round Porto Bello being accused of avarice; a vice natural to all the inhabitants of these countries.

Provisions are scarce at Porto Bello, and consequently dear, particularly during the time of the galleons and the fair, when there is a necessity for a supply from Carthagena and Panama. From the former are brought maize, rice, casava, hogs, poultry, and roots; and from the latter, cattle. The only thing in plenty here is fish, of which there is great variety, and very good. It also abounds in sugar-canes, so that the chacaras, or farm-houses, if they may be so called, are built of them. They have also ingenios \* for making sugar and molasses, and, from the latter, brandy.

Fresh water pours down in streams from the mountains, some running without the town, and others crossing it. These waters are very light and digestive, and, in those who are used to them, good to create an appetite; qualities, which in other countries would be very valuable, are here pernicious. This country seems so cursed by nature, tries that what is in itself good, becomes here destructive. For, doubtless, this water is too fine and active for the stomachs of the inhabitants; and thus produces dysenteries, the last stage of all other distempers, and which the patient very seldom survives. These rivulets, in their descent from the mountains, form little reservoirs, or ponds, whose coolness is increased by the shade of the trees, and in these all the inha-

\* Ingenio signifies the mill, still, and apparatus, for making sugar, rum, &c. A.

bitants of the town bathe themselves constantly every day at eleven in the morning ; and the Europeans fail not to follow an example so pleasant and conducive to health.

As these forests almost border on the houses of the town, the tigers often make incursions into the streets during the night, carrying off fowls, dogs, and other domestic creatures ; and sometimes even boys have fallen a prey to them ; and it is certain, that ravenous beasts, which provide themselves with food in this manner, are afterwards known to despise what the forests afford ; and that, after tasting human flesh, they slight that of beasts \*. Besides the snares usually laid for them, the Negroes and Mulattos, who fell wood in the forests of the mountains, are very dexterous in encountering the tigers ; and some, even on account of the slender reward, seek them in their retreats. The arms in this combat, seemingly so dangerous, are only a lance, of two or three yards in length, made of a very strong wood, with the point of the same hardened in the fire ; and a kind of cimeter, about three quarters of a yard in length. Thus armed, they stay till the creature makes an assault on the left arm, which holds the lance, and is wrapped up in a short cloak of baize. Sometimes the tiger, aware of the danger, seems to decline the combat ; but his antagonist provokes him with a slight touch of the lance, in order, while he is defending himself, to strike a sure blow ; for, as soon as the creature feels the lance, he grasps it with one of his paws, and with the other strikes at the arm which holds it. Then it is that the person nimbly aims a blow with his cimeter, which he kept concealed with the other hand, and hamstring the creature, which immediately draws back enraged, but returns to the charge ; when, receiving another such stroke, he is totally deprived of his most dangerous weapons, and rendered incapable of moving. After which the person kills him at leisure, and stripping off the skin, cutting off the head, and the fore and hind feet, returns to the town, displaying these as the trophies of his victory.

Among the great variety of animals in this country, one of the most remarkable is the *Perico ligero*, or nimble Peter, an ironical name given it on account of its extreme sluggishness and sloth. It resembles a middling monkey, but of a wretched appearance, its skin being of a greyish brown, all over corrugated, and the legs and feet without hair. He is so lumpish, as not to stand in need of either chain or hutch, for he never stirs till compelled by hunger. When he moves, every effort is attended with such a plaintive, and at the same time so disagreeable a cry, as at once produces pity and disgust ; and this even on the slightest motion of the head, legs, or feet ; proceeding probably from a general contraction of the muscles and nerves of his body, which puts him to extreme pain, when he endeavours to move them. In this disagreeable cry consists his whole defence ; for, it being natural to him to fly at the first hostile approach of any beast, he makes at every motion such howlings as are even insupportable to his pursuer, who soon quits him, and even flies beyond the hearing of his horrid noise. Nor is it only during the time he is in motion that he utters these cries ; he repeats them while he rests himself, continuing a long time motionless before he takes another march. The food of this creature is generally wild fruits ; when he can find none on the ground, he looks out for a tree well loaded, which, with a great deal of pains, he climbs ; and, to save himself such another toilsome ascent, plucks off all the fruit, throwing them on the ground ; and to avoid the pain of descending, forms himself into a ball, and drops from

\* This is an error. Beasts of prey in America are not so fierce as in Africa and Asia ; they never attack the human species, but when forced by hunger, or provoked. It is affirmed by the natives, that if an European, with his Negro and dog, were to meet with two hungry beasts of prey, whether tigers or ounces, they would seize the dog and Negro, and leave the European. But the truth I never knew experienced. A.

the branches. At the foot of this tree he continues till all the fruits are consumed, never stirring till hunger forces him to seek again for food.

Serpents are here as numerous and deadly as at Carthagena; and toads\* innumerable, swarming not only in the damp and marshy places, as in other countries, but even in the streets, courts of great houses, and all open places in general. The great numbers of them, and their appearance after the least shower, have induced some to imagine, that every drop of water becomes a toad; and though they allege, as a proof, the extraordinary increase of them on the smallest shower, their opinion does not seem to me to be well founded. It is evident, that these reptiles abound both in the forests and neighbouring rivers, and even in the town itself; and produce a prodigious quantity of animalcula, from whence, according to the best naturalists, these reptiles are formed. These animalcula either rise in the vapours, which form the rain, and falling together with it on the ground, which is extremely heated by the rays of the sun, or being already deposited in it by the toads, grow, and become animated, in no less numbers than were formerly seen in Europe. But some of them which appear after rains being so large as to measure six inches in length, they cannot be imagined the effect of an instantaneous production; I am therefore inclined to think, from my own observations, that this part of the country being remarkably moist, is very well adapted to nourish the breed of those creatures, which love watery places; and therefore avoid those parts of the ground exposed to the rays of the sun, seeking others where the earth is soft, and there form themselves cavities in the ground, to enjoy the moisture; and as the surface over them is generally dry, the toads are not perceived; but no sooner does it begin to rain, than they leave their retreats to come at the water, which is their supreme delight; and thus fill the streets and open places. Hence the vulgar opinion had its rise, that the drops of rain were transformed into toads. When it has rained in the night, the streets and squares in the morning seem paved with these reptiles; so that you cannot step without treading on them, which sometimes is productive of troublesome bites: for, besides their poison, they are large enough for their teeth to be severely felt. Some we have already observed to be six inches long, and this is their general measure; and there are such numbers of them, that nothing can be imagined more dismal than their croakings, during the night, in all parts of the town, woods, and caverns of the mountains.

#### CHAP. VI. — *Of the Trade of Porto Bello.*

THE town of Porto Bello, so thinly inhabited, by reason of its noxious air, the scarcity of provisions, and the barrenness of its soil, becomes, at the time of the galleons, one of the most populous places in all South America. Its situation on the isthmus, betwixt the South and North Sea, the goodness of its harbour, and its small distance from Panama, have given it the preference for the rendezvous of the joint commerce of Spain and Peru, at its fair.

On advice being received at Carthagena, that the Peru fleet had unloaded at Panama, the galleons make the best of their way to Porto Bello, in order to avoid the distempers which have their source from idleness. The concourse of people on this occasion is such as to raise the rent of lodging to an excessive degree; a middling chamber, with a closet,

\* Called by the natives *serpos*: they appear every dewy evening in as great numbers as after a shower. I never heard of the opinion the author speaks of. A.

lets, during the fair, for a thousand crowns, and some large houses for four, five, or six thousand.

The ships are no sooner moored in the harbour, than the first work is to erect in the square a tent made of the ship's sails, for receiving its cargo, at which the proprietors of the goods are present, in order to find their bales by the marks which distinguish them. These bales are drawn on sledges to their respective places by the crew of every ship, and the money given them is proportionally divided.

Whilst the seamen and European traders are thus employed, the land is covered with droves of mules from Panama, each drove consisting of above an hundred, loaded with chests of gold and silver, on account of the merchants of Peru. Some unload them at the exchange, others in the middle of the square; yet, amidst the hurry and confusion of such crowds, no theft, loss, or disturbance is ever known. He who has seen this place during the tiempo muerto, or dead time, solitary, poor, and a perpetual silence reigning every where; the harbour quite empty, and every place wearing a melancholy aspect, must be filled with astonishment at the sudden change; to see the bustling multitudes, every house crowded, the square and streets encumbered with bales and chests of gold and silver of all kinds; the harbour full of ships and vessels, some bringing by the way of Rio de Chape the goods of Peru, as cacao, quinquina, or Jesuits' bark, Vicuña wool and bezoar stones; others coming from Carthagena loaded with provisions; and thus a spot at all other times detested for its deleterious qualities, becomes the staple of the riches of the old and new world, and the scene of one of the most considerable branches of commerce in the whole earth.

The ships being unloaded, and the merchants of Peru, together with the president of Panama, arrived, the fair comes under deliberation. And for this purpose the deputies of the several parties repair on board the commodore of the galleons, where, in presence of the commodore, and the president of Panama, the former as patron of the Europeans, and the latter, of the Peruvians, the prices of the several kinds of merchandises are settled; and all preliminaries being adjusted in three or four meetings, the contracts are signed, and made public, that every one may conform himself to them in the sale of his effects. Thus all fraud is precluded. The purchases and sales, as likewise the exchanges of money, are transacted by brokers, both from Spain and Peru. After this, every one begins to dispose of his goods; the Spanish brokers embarking their chests of money, and those of Peru sending away the goods they have purchased, in vessels called chatas and bongos, up the river Chagre. And thus the fair of Porto Bello ends.

Formerly this fair was limited to no particular time; but as a long stay, in such a sickly place, extremely affected the health of the traders, His Catholic Majesty transmitted an order, that the fair should not last above forty days, reckoning from that in which the ships came to an anchor in the harbour; and that, if in this space of time the merchants could not agree in their rates, those of Spain should be allowed to carry their goods up the country to Peru; and accordingly the commodore of the galleons has orders to re-embark them, and return to Carthagena; but otherwise, by virtue of a compact between the merchants of both kingdoms, and ratified by the king, no Spanish trader is to send his goods, on his own account, beyond Porto Bello; and on the contrary, those of Peru cannot send remittances to Spain, for purchasing goods there.

Whilst the English were permitted to send an annual ship, called Navio de Permiso, she used to bring to the fair a large cargo on her own account, never failing first to touch at Jamaica, so that her loading alone was more than half of all those brought by the galleons; for besides that her burthen so far exceeded five hundred Spanish

tons, that it was even more than nine hundred, she had no provisions, water, or other things, which fill a great part of the hold; she indeed took them in at Jamaica, from whence she was attended by five or six smaller vessels, loaded with goods, which, when arrived near Porto Bello, were put on board her, and the provisions removed into the tenders; by which artifice the single ship was made to carry more than five or six of the largest galleons. This nation having a free trade, and selling cheaper than the Spaniards, that indulgence was of infinite detriment to the commerce of Spain.

In the dead time, all the trade stirring here, consists in provisions from Carthagena, and cacao and quinquina, down the river Chagre; the former is carried in small vessels to Vera Cruz, and the quinquina either deposited in warehouses, or put on board ships, which with permission, come from Spain to Nicaragua and Honduras; these ships also take in cacao. Some small vessels likewise come from the islands of Cuba, La Trinidad, and St. Domingo, with cacao and rum.

Whilst the assiento of negroes subsisted either with the French or English, one of their principal factories was settled here, and was of considerable advantage to its commerce, as being the channel by which not only Panama was supplied with negroes, but from whence they were sent all over the kingdom of Peru; on which account the agents of the assiento were allowed to bring with them such a quantity of provisions as was thought necessary, both for their own use, and their slaves of both sexes.

### BOOK III.

#### VOYAGE FROM PORTO BELLO TO PANAMA.

##### CHAP. I. — *Voyage up the Chagre, and Journey from Cruces to Panama by Land.*

AS it had always been our fixed design to stay no longer than absolutely necessary in any place, till we had answered the great end of our commission, our ardour to enter upon it, together with a desire of quitting this dangerous climate, induced us to make the utmost dispatch. In order to this, we sent advice from Porto Bello to Don Dionysio Martinez de la Vega, president of Panama, of our arrival, the motives of our voyage, and other circumstances, together with His Majesty's orders relating to the assistance to be given us by all his officers; adding our requests, that he would be pleased to send one or two of those vessels used on the Chagre, to bring us to Panama, it being impracticable for us to travel thither by land, as some of the instruments were too large for the narrow craggy roads in many parts, and others of a nature not to be carried on mules. This gentleman, who has always shewn a remarkable zeal for every thing dignified with His Majesty's name, was not in the least wanting on this occasion; and his polite reply, which fully answered our most sanguine hopes, was followed by two vessels dispatched to Porto Bello. Immediately on their arrival, we put on board the instruments and baggage, belonging both to the French gentlemen, and ourselves; and on the 22d of December 1735, departed from Porto Bello.

The land wind being contrary to us, we rowed out of Porto Bello harbour; but the brisas setting in at nine in the morning, both vessels got under sail; and a fresh gale brought us, at four in the evening of the same day, to the mouth of the river

Chagre, where we landed at the custom-house; and the next day we began to row up the river.

On the 24th, we endeavoured to proceed in the same manner, but the force of our oars being too weak to stem the current, we were obliged to set the vessels along with poles. At a quarter after one in the afternoon, we measured the velocity of the current, and found it ten toises and one foot in forty seconds and an half. In this slow toilsome manner we proceeded till the 27th at eleven in the morning, when we arrived at Cruces, the landing place, about five leagues from Panama. As we advanced up the river we found a great increase in the velocity of the current, which on the 25th was ten toises in twenty-six seconds and a half: on the 26th, at the place where we anchored for that night, ten toises in fourteen seconds and a half: and on the 27th, at the town of Cruces, the same space in sixteen seconds. Consequently the greatest velocity of the water is two hundred and eighty-three toises, or about a league, in an hour.

This river, which was formerly called Lagartos, from the number of alligators in it, though now better known by that of Chagre, has its source in the mountains near Cruces. Its mouth, which is in the North Sea, in  $9^{\circ}18'40''$  north latitude, and  $295^{\circ}6'$  longitude, from the meridian of Teneriffe, was discovered by Lopez de Olano. Diego de Alvites discovered that part of it where Cruces is situated; but the first Spaniard who sailed down it, to reconnoitre it to its mouth, was Captain Hernando de la Serna, in the year 1527. Its entrance is defended by a fort, situated on a steep rock on the east side near the sea shore. This fort is called San Lorenzo de Chagres, has a commandant and a lieutenant, both appointed by His Majesty, and the garrison is draughted from Panama.

About eight toises from the above fort, is a town of the same name. The houses are principally of reeds, and the inhabitants negroes, mulattos, and mestizos. They are a brave and active people, and on occasion, take up arms to the number of triple the usual garrison of the fort.

Opposite, on a low and level ground, stands the royal custom-house, where an account is taken of all goods going up the Chagre. Here the breadth of the river is about one hundred and twenty toises, but grows narrower gradually as you approach its source. At Cruces, the place where it begins to be navigable, it is only twenty toises broad; the nearest distance between this town and the mouth is twenty-one miles, and the bearing north-west  $7^{\circ}24'$  westerly; but the distance measured along the several windings of the river, is no less than forty-three miles.

It breeds a great number of caymanes or alligators; creatures often seen on its banks, which are impassable, both on account of the closeness of the trees, and the bushes which cover the ground, as it were with thorns. Some of these trees, especially the cedar, are used in making the canoes or banjas employed on the river. Many of them being undermined by the water, are thrown down by the swellings of the river; but the prodigious magnitude of the trunk, and their large and extensive branches, hinder them from being carried away by the current; so that they remain near their original situation, to the great inconvenience and even danger of the vessels; for the greater part of them being under water, a vessel by striking suddenly on them is frequently overset. Another obstruction to the navigation of this river is the races, or swift currents over the shallows, where those vessels, though built for that purpose, cannot proceed for want of a sufficient quantity of water; so that they are obliged to be lightened, till they have passed the shallow.

The barks employed on this river are of two kinds, the *chatas* and *bongos*, called in Peru, *bonques*. The first are composed of several pieces of timber, like barks, and of great breadth, that they may draw but little water; they carry six or seven hundred quintals. The *bongos* are formed out of one piece of wood; and it is surprising to think there should be trees of such a prodigious bulk, some being eleven Paris feet broad, and carrying conveniently four or five hundred quintals. Both sorts have a cabin at the stern, for the conveniency of the passengers, a kind of awning supported with a wooden stanchion reaching to the head, and a partition in the middle, which is also continued the whole length of the vessel; and over the whole, when the vessel is loaded, are laid hides, that the goods may not be damaged by the violence of the rains, which are very frequent here. Each of these require, besides the pilot, at least eighteen or twenty robust negroes; for without such a number, they would not be able, in going up, to make any way against the current.

All the forests and woods near this river are full of wild beasts, especially different kinds of monkeys. They are of various colours, as black, brown, reddish, and striated; there is also the same diversity in their size; some being a yard long, others about half a yard, and others scarce one third. The flesh of all these different kinds is highly valued by the negroes, especially that of the red; but however delicate the meat may be, the sight of them is I think, enough to make the appetite abhor them; for when dead, they are scalded in order to take off the hair, whence the skin is contracted by the heat, and when thoroughly cleaned, looks perfectly white, and very greatly resembles a child of about two or three years of age, when crying. This resemblance is shocking to humanity, yet the scarcity of other food in many parts of America renders the flesh of these creatures valuable; and not only the negroes, but the Creoles and Europeans themselves, make no scruple of eating it.

Nothing in my opinion, can excel the prospects which the rivers of this country exhibit. The most fertile imagination of a painter can never equal the magnificence of the rural landscapes here drawn by the pencil of Nature. The groves which shade the plains, and extend their branches to the river; the various dimensions of the trees which cover the eminences; the texture of their leaves; the figure of their fruits, and the various colours they exhibit, form a most delightful scene, which is greatly heightened by the infinite variety of creatures with which it is diversified. The different species of monkeys, skipping in troops from tree to tree, hanging from the branches, and in other places six, eight, or more of them linked together, in order to pass a river, and the dams with their young on their shoulders, throwing themselves into odd postures, making a thousand grimaces, will perhaps appear fictitious to those who have not actually seen it. But if the birds are considered, our reason for admiration will be greatly augmented: for, beside those already mentioned (Book I. chap. vii.), and which, from their abundance, seem to have had their origin on the banks of this river, here are a great variety of others, also eatable, as the wild and royal peacock, the turtle-dove, and the heron. Of the latter there are four or five species; some entirely white, others of the same colour, except the neck and some parts of the body, which are red; others black, only the neck, tips of the wings and the belly white; and some, with other mixture of colours; and all differing in size. The species first mentioned are the least; the white mixed with black the largest and most palatable. The flesh of peacocks, pheasants, and other kinds, is very delicate\*. The trees along the banks

\* The fishy taste, which most of the fowls in this country have, is an exception to their delicacy as food. A.

of this river are surprisngly loaded with fruit; but the pine-apples, for beauty, size, flavour, and fragrancy, excel those of all other countries, and are highly esteemed in all parts of America.

On our arrival at Cruces, we went on shore, and were entertained by the alcalde of the town, whose house was that of the customs, where an account is taken of all goods brought up the river. Having, with all possible dispatch, got every thing ready for our journey to Panama, on the 29th, at half an hour after eleven in the morning, we set out, and reached that city by three quarters after six in the evening. We made it our first business to wait on the president, a mark of respect due, not only to his dignity, but also for the many civilities he had shewn us. This worthy gentleman received us all, and particularly the foreigners, in the most cordial and endearing manner. He also recommended to all the King's officers, and other persons of distinction in the city, not to be wanting in any good office, or mark of esteem: a behaviour which shewed at once the weight of the royal orders, and his zeal to execute his Sovereign's pleasure.

Some indispensable preparations which were to be made for the prosecution of our journey, detained us longer at Panama than we expected. We however employed our time to the best advantage, making several observations, particularly on the latitude and the pendulum; but the proximity of Jupiter at that time to the sun hindered us from settling the longitude. I also employed myself in taking a plan of the place, with all its fortifications, and adjacent coast. At length, all things being in readiness, we embarked without any farther loss of time.

## CHAP. II. — *Description of the City of Panama.*

PANAMA is built on an isthmus of the same name, the coast of which is washed by the South Sea. From the observations we made here, we found the latitude of this city to be  $8^{\circ} 57' 48'' \frac{1}{2}$  north. With regard to its longitude, there are various opinions; none of the astronomers having been able, from observations made on the spot, to ascertain it, so that it is still doubtful whether it lies on the east or west side of the meridian of Porto Bello. The French geographers will have it to lie on the east side, and accordingly have placed it so in their maps; but, in those of the Spaniards, it is on the west: and I conceive the latter, from their frequent journeys from one place to the other, may be concluded to have a more intimate knowledge of their respective situations; whereas the former, being strangers, in a great measure, to those places, have not the opportunity of making so frequent observations. I allow indeed that, among the Spaniards who make this little journey, the number is very small of those who have either capacity or inclination for forming a well-grounded judgment of the road they travel; but there have been also many expert pilots, and other persons of curiosity, who have employed their attention on it, and from their report the situation of the city has been determined. This opinion is in some measure confirmed by our course, the direction of which on the river, from its mouth to the town of Cruces, was east  $6^{\circ} 15'$  southerly, and the distance being twenty-one miles, the difference between the two meridians is twenty minutes, the distance Chagre is situated to the west of Cruces. We must also consider the distance between Porto Bello and Chagre. During the first two hours and a half we sailed a league and a half an hour, when, the land-breeze springing up, we sailed two leagues an hour for seven hours, which in all makes eighteen leagues; and the whole course having been very nearly west, the difference of longitude must have

been forty-four miles, or forty-one, allowing for what might have been wanting of a due west course; and from this again subtracting the twenty-minutes which Cruces lies to the east of Chagre, the result is, that Cruces is situated twenty-one minutes to the westward of Porto Bello. To this last result must be added the distance of meridians between Cruces and Panama, the bearing of which is near south-west and north-east; and reckoning that we travelled, on account of the roughness and cragginess of the road, only three quarters of a league an hour, during the seven hours, the whole is fourteen miles, and the difference of meridians ten minutes and a half. Consequently Panama is situated about thirty minutes west of Porto Bello; and the Spanish artists are nearer the truth than the French.

The first discovery of Panama the Spaniards owe to Tello de Guzman, who landed here in 1515; but found only some fishermen's huts, this being a very proper place for their business, and from thence the Indians call it Panama, which signifies a place abounding in fish. Before this, namely, in the year 1513, Vasco Nunez de Balboa discovered the South Sea, and took legal possession of it in the names of the Kings of Castile. The discovery of Panama was, in the year 1518, followed by the settlement of a colony there, under Pedrarias Davila, governor of Castilla del Oro, the name by which this Terra Firma was then called; and in 1521, His Catholic Majesty, the Emperor Charles V., constituted it a city, with the proper privileges.

It was this city's misfortune, in the year 1670, to be sacked and burnt by John Morgan, an English adventurer. He had before taken Porto Bello and Maracaybo; and, retiring to the islands, he every where published his design of going to Panama; upon which many of the pirates, who then infested those seas, joined him. He first sailed for Chagre, where he landed some of his men, and, at the same time, battered the castle with his ships; but his success was owing to a very extraordinary accident. His strength was considerably diminished by the great numbers killed and wounded by the fort, and he began to think it advisable to retreat; when an arrow, shot from the bow of an Indian, lodged in the eye of one of Morgan's companions. The person wounded, rendered desperate by the pain, with a remarkable firmness and presence of mind, drew the arrow from the wound, and, wrapping one of its ends in cotton, or tow, put it into his musket, which was ready loaded, and discharged it into the fort, where the roofs of the houses were of straw, and the sides of wood, according to the custom of that country. The arrow fell on one of the roofs, and immediately set it on fire, which was not at first observed by the besieged, who were busy in defending the place; but the smoke and flames soon informed them of the total destruction of the fort, and of the magazine of powder, which the flames must soon reach. This unexpected accident filled them with terror and confusion; the courage of the soldiers degenerated into tumult and disobedience; and, every one being eager to save himself, the works were soon abandoned, in order to escape the double danger of being either burnt or blown up. The commandant, however, determined to do all in his power, still defended the fort, with sixteen or twenty soldiers, being all that were left him, till, covered with wounds, he fell a victim to his loyalty. The pirates, encouraged by this accident, pushed their attack with the utmost vigour; and the few people were obliged to surrender the place, which the violence of the flames soon laid in ashes. Having surmounted this difficulty, the greater part of them proceeded up the river in boats and launches, leaving the ships at anchor, for the defence of their new conquest. The detachment having landed at Cruces, marched towards Panama, and, on the Sabana, a spacious plain before the city, they had several skirmishes, in which Morgan always gained the advantage; so that he made himself master of the city, but found it almost  
forfaken;

forlaken; the inhabitants, on seeing their men defeated, having retired into the woods. He now plundered it at his leisure; and, after staying some days, agreed, for a large ransom, to evacuate it without damaging the buildings; but, after the payment of the money, the city was set on fire, by accident, as they gave out, and as the history of his adventures relates; but it is much more probable that it was done by design. To pretend it was owing to accident, seemed to them the best palliative for their violating the treaty.

This misfortune rendering it absolutely necessary to rebuild the city, it was removed to its present situation, which is about a league and a half from the former, and much more convenient. It has a wall of free-stone, and is defended by a large garrison of regulars; whence detachments are sent to do duty at Darien, Porto Bello, and Chagre. Near the city, on the north-west, is a mountain called Ancon, whose perpendicular height, by a geometrical mensuration, we found to be one hundred and one toises.

The houses, in general, when we visited this city, were of wood, having but one story, and a tiled roof, but large; and from their disposition, and the symmetry of their windows, made a handsome appearance. A few were of stone. Without the walls is an open suburb, larger than the city itself, and the houses of the same materials and construction as those within, except such as border on the country, most of which are thatched with straw; and among them some bujos, or huts. The streets, both of the city and suburb, are straight, broad, and, for the most part, paved.

Though the greater part of the houses were formerly of wood, fires were rarely known at Panama, the nature of the timber being such, that if any fire is laid on the floor, or placed against a wall, it is productive of no other consequence than that of making a hole, without kindling into a flame; and the fire itself extinguished by the ashes. But, notwithstanding this excellent quality in the wood, in the year 1737, the city was almost entirely consumed, the goodness of the timber being, unable to secure it from the ravages of the flames; indeed, by the concurrence of another cause, the timber was then rendered more combustible. The fire began in a cellar, where, among other goods, there were great quantities of pitch, tar, naphtha, and brandy; these inflammable substances rendered this singular kind of wood a more easy prey to the devouring flames. In this conflagration the suburb owed its safety to its distance from the city, which is one thousand two hundred toises. Since this misfortune, it has been again rebuilt; and the greater part of the houses are now of stone, all sorts of materials for buildings of this kind being here in the greatest plenty.

In this city is a tribunal or royal audience, in which the governor of Panama presides; and to this employment is annexed the captainship general of Terra Firma, which is generally conferred on an officer of distinction, though his common title is that of president of Panama. It has also a cathedral, and a chapter consisting of the bishop, and a number of prebendaries; an *aujutamiento*, or corporation, composed of *alcaldes* and *regidores*; three officers of revenue, under an *acomptant*, treasurer, and agent; and a court of inquisition appointed by the tribunal of inquisition at Carthagen. The cathedral, and also the convents, are of stone; indeed, before the conflagration, several of the latter were of wood; but that terrible misfortune shewed them the necessity of using more solid materials. The convents are those of the Dominicans, Franciscans, Augustines, and Fathers of Mercy; a college of Jesuits, a nunnery of the order of St. Clara, and an hospital of St. Juan de Dios. The slender revenues will not admit of their being very numerous; and accordingly the ornaments of the churches are neither remarkably rich, nor contemptible.

The decorations of private houses are elegant, but not costly; and though there are here no persons of such monstrous fortunes as in some cities of America, it is not destitute of wealthy inhabitants, and all have a sufficiency; so that, if it cannot be classed among opulent cities, it is certainly above poverty.

The harbour of this city is formed in its road, by the shelter of several islands, particularly Isla de Naos, de Perico, and Flamencos: the anchoring-place is before the second, and thence called Perico. The ships here lie very safe; and their distance from the city is about two and a half, or three leagues.

The tides are regular; and, according to an observation we made on the day of the conjunction, it was high-water at three in the evening. The water rises and falls considerably; so that the shore, lying on a gentle slope, is, at low water, left dry to a great distance. And here we may observe the great difference of the tides in the North and South Seas, being directly opposite: what in the ports on the North Sea is accounted irregular, is regular in the South; and when in the former it ceases to increase or decrease, in the latter it both rises and falls, extending over the flats, and widening the channels, as the proper effect of the flux and reflux. This particular is so general, as to be observed in all the ports of the South Sea; for even at Manta, which is almost under the equinoctial, the sea regularly ebbs and flows nearly six hours; and the effects of these two motions are sufficiently visible along the shores. The same happens in the river of Guayaquil, where the quantity of its waters does not interrupt the regular succession of the tides. The like phenomena are seen at Païta, Guanchaco, Callao, and the other harbours; with this difference, that the water rises and falls more in some places than in others; so that we cannot here verify the well-grounded opinion entertained by sailors, namely, that between the tropics the tides are irregular, both in the disproportion of the time of flood to that of the ebb, and also in the quantity of water rising or falling by each of these motions; the contrary happening here. This phenomenon is not easily accounted for; all that can be said is, that the isthmus, or narrow neck of land, separating the two seas, confines their waters, whereby each is subject to different laws.

The variation of the magnetic needle, in this road, is  $7^{\circ} 39'$  easterly. Both the road and whole coast abound in a great variety of excellent fish, among which are two kinds of oysters, one smaller than the other; but the smallest are much the best.

At the bottom of the sea are a great number of pearls; and the oysters, in which they are found, are remarkably delicious. This fishery is of great advantage to the inhabitants of all the islands in this bay.

The harbour of Perico is the rendezvous of the Peru fleet, during the time of the fair; and is never without barks loaded with provisions from the ports of Peru, and a great number of coasting vessels going from thence to Choco, and parts on the western coast of that kingdom.

The winds are the same as along the whole coast; the tides or currents are stronger near the islands than at a distance from them; but no general rule can be given as to their course, that depending on the place where the ship is, with regard to the channels which they form. They also vary in the same place according to the winds. Let it therefore suffice that we have shewn there are tides on this coast, that, on any occasion, this notice may be applied to use.

CHAP. III. — *Of the Climate and Inhabitants of Panama.*

MANY countries of America have such a resemblance, in respect to the inhabitants and customs, that they appear the same. This is equally observable in the climate, when no difference is occasioned by the accidental disposition of the ground, or quality of the soil. But, this subject having been already sufficiently handled, a rational curiosity will require us only to mention those particulars in which they differ. Thus, after saying that the inhabitants of this city resemble those of Carthagena with regard to their constitution, I must add, that there is some difference in their disposition, those of Panama being more parsimonious, more designing and insidious, and stopping at nothing when profit is in view, the pole-star both of Europeans and Creoles; and it is difficult to determine which set the first example. The same selfishness and parsimony reigns equally among the women, some Spanish ladies excepted, who have accompanied their husbands, appointed auditors, or to some other employments; these still retaining the qualities they imbibed from education.

The women of Panama begin to imitate the dress of those of Peru, which, when they go abroad, consists only of a gown and petticoat, nearly resembling those worn in Spain; but at home, on visits, and some particular ceremonies, their shift is their only clothing from the waist upwards. The sleeves are very long and broad, and quite open in the lower part or near the hand; and these, like the bosom, are decorated with very fine lace, the chief pride of the ladies of Panama. They wear girdles, and five or six chaplets or rows of beads about their necks, some set in gold, some of coral mixed with small pieces of gold, and others less costly; but all of different sizes, in order to make the greater show; and besides these, one, two, or more gold chains, having some relics dependent from them. Round their arms they wear bracelets of gold and tombac; also strings of pearls, corals, and bugles. Their petticoat reaches only from their waist to the calf of their legs; and from thence to a little above their ankle, hangs, from their under petticoat, a broad lace. The Mestiza, or Negro women, or the coloured women as they are called here, are distinguished in their dress from those of Spain, only by the gown and petticoat; the particular privilege of the latter, and which also gives them the title of Signora; though many of them have little to boast of, either with regard to rank or wealth\*.

If I omitted in Carthagena the following observation, it was in order to reserve it for this place; namely, that in Carthagena, Porto Bello, and Panama, the inhabitants have a very singular pronunciation; and as some nations have a haughty accent, some a politeness in their manner of expression, and others speak in a very quick manner; so here their pronunciation has a faintness and languor, which is very disagreeable, till we are reconciled to it by custom. And what is still more particular, each of these three cities has a different accent in this languor; besides particular syllables peculiar to each, and no less different than they are from the manner of speaking used in Spain. This may, in some measure, flow from an ill habit of body, weakened by the excessive heat of the climate; but I believe it is principally owing to custom.

The only difference between the climate of Carthagena and this is, that summer begins later, and ends sooner, as, the longer the brisas delay their return, the sooner they are over. From many thermometrical observations made on several days without any sensible difference betwixt them at the same hours, on the 5th and 6th of January

\* These customs are general throughout all the northern parts of South America. A.

1736, at six in the morning, they found the liquor at  $1020\frac{1}{2}$ , at noon  $1023\frac{1}{2}$ , and at three in the afternoon at 1025. But, at the same time, it must be observed, that the brisas now began to blow, and, consequently it was not the time of the greatest heats; these prevailing in the months of August, September, and October.

Though this climate would naturally be supposed to produce the same plants with others in the same latitude, it is very different. Nor does this seem to proceed from any defect in the soil, but from the fondness of the inhabitants for trade, and their total neglect of agriculture, as too laborious. But, be the real cause of it what it will, this is certain, that even in the parts contiguous to the city, the land is left entirely to nature; nor does the least vestige remain of its being formerly cultivated. From hence proceeds a scarcity of all things, and, consequently, they are sold at a high price. Here are no pulse or pot-herbs of any kind; and that this is not owing to the sterility of the earth, we had an evident proof in a small garden, belonging to a Gallician, where all things of this kind were produced in great plenty. By this means Panama is under a necessity of being supplied with every thing, either from the coast of Peru, or places in its own jurisdiction.

#### CHAP. IV.—*Of the usual Food of the Inhabitants of Panama.*

THE very want of provisions causes the tables at Panama to be better furnished; and it may be truly said, that this city subsists wholly by commerce, whatever is consumed in it coming from other places. The ships of Peru are continually employed in exporting goods from that country, and the coasting barks in bringing the products of the several places in its jurisdiction and that of Veraguas. So that Panama is plentifully furnished with the best of wheat, maize, poultry, and cattle. Whether it be owing to the superior goodness of their food, the temperament of the climate, or to some other cause to me unknown, it is certain that the inhabitants of this city are not so meagre and pale as those who live at Carthagena and Porto Bello.

Their common food is a creature called Guana. It is amphibious, living equally on the land and in the water. It resembles a lizard in shape, but is something larger, being generally above a yard in length: some are considerably bigger, others less. It is of a yellowish green colour, but of a brighter yellow on the belly than on the back, where the green predominates. It has four legs like a lizard; but its claws are much longer in proportion; they are joined by a web, which covers them, and is of the same form as those of geese, except that the talons at the end of the toes are much longer, and project entirely out of the web or membrane. Its skin is covered with a thin scale adhering to it, which renders it rough and hard; and, from the crown of its head to the beginning of its tail, which is generally about half a yard, runs a line of vertical scales, each scale being from one to two lines in breadth, and three or four in length, separated so as to represent a kind of saw. But from the end of the neck to the root of the tail, the scales gradually lessen, so as, at the latter part, to be scarce visible. Its belly is, in largeness, very disproportionable to its body; and its teeth separated, and very sharp pointed. On the water it rather walks than swims, being supported by the webs of its feet; and on that element its swiftness is such, as to be out of sight in an instant; whereas on the land, though far from moving heavily, its celerity is greatly less. When pregnant, its belly swells to an enormous size; and, indeed, they often lay sixty eggs at a time, each of which is as large as those of a pigeon. These are reckoned a great dainty, not only at Panama, but in other parts where this creature

creature is found. These eggs are all inclosed in a long, fine membrane, and form a kind of string. The flesh of this animal is exceedingly white, and universally admired by all ranks. I tasted both the flesh and the eggs, but the latter are viscid in the mouth, and of a very disagreeable taste: when dressed, their colour is the same with that of the yolk of a hen's egg. The taste of the flesh is something better: but, though sweet, has a nauseous smell. The inhabitants, however, compared it to that of chicken; though I could not perceive the least similarity\*. These people, who, by being accustomed to see them, forget the natural horror attending the sight of an alligator, delight in this food, to which the Europeans at first can hardly reconcile themselves.

Here are two singularities attributed to Nature, and firmly believed by the inhabitants; one in the plant called Yerva del Gallo; the other, the double-headed snake, called La Cabeça.

It is constantly asserted in this city, that its neighbourhood produces a snake having a head at each extremity; and that from the bite of each a poison is conveyed equal in activity to that of the coral, or rattle-snake; we could not have the satisfaction of seeing one of this strange species, though we used all the means in our power to gratify our curiosity: according to report, its usual length is about half a yard, in figure perfectly resembling an earth-worm. Its diameter is about six or eight lines, and its head different from that of other snakes; being of the same dimensions with its body. It is, however, very probable, that the creature has only one head, and, from its resembling a tail, has been imagined to have two†. The motion of it is very slow, and its colour variegated with spots of a paler tint.

The herb called Del Gallo, or cocks-herb, is so highly valued here, that they affirm, if an incision be made round the neck of that fowl, provided the vertebra be not injured, on the application of this herb, the wound immediately heals. Whatever construction we put upon this pretended cure, it can only be considered as a mere vulgar notion; and I mention it here with no other intention, than to satisfy the world that we were not ignorant of it.

During our stay at Panama, we were very urgent with those who related this story to procure us some of the herb, that we might make the experiment; but in this we were as unfortunate as in the article of the two-headed snake, none being to be had. I have, however, since been told, by persons settled in Panama, that it was very common; a sufficient proof, in my opinion, that the story has no foundation; for, if it was so easy to be had, and of such surprising virtue, what reason could they have for refusing to convince us by ocular demonstration? It may have a styptic virtue, when none of the principal blood-vessels are injured; but that it can join them after being cut, together with the nerves and tendons when totally severed, no person of any knowledge or judgment will ever be brought to believe. And, if its effects are so remarkably happy on poultry, it is surely natural to think it should have the same on any other animal; and, consequently, on the human species. If this were the case, it would be of infinite value; and no soldier, especially, should be without it, as a few ounces of this grand restorative would immediately cure the most terrible wounds.

\* The flesh of the guana is whiter than chicken, and more pleasing to most palates, except as to the dryness of it. The common sauce to it is lime juice, seasoned with Chian pepper; which sauce the natives eat with their fish, flesh, and fowl. If the guana were to be had in England, I doubt not but it would be ranked among the greatest dainties. A.

† This conjecture is very right. H.

CHAP. V. — *Of the Trade and Commerce of Panama.*

FROM what has been said relating to the commerce of Porto Bello in the time of the galleons, an idea may be formed of that of Panama on the same occasion; this city being the first where the treasure from Peru is landed, and likewise the staple for the goods brought up the river Chagre. This commerce is of the greatest advantage to the inhabitants, both with regard to letting their houses, the freight of vessels, the hire of mules and Negroes, who, forming themselves into separate bodies, draw along from Cruces large bales, or any brittle and delicate wares; the roads here, though the distance is but short by crossing the chain of mountains called the Cordilleras, are in some parts so narrow, that a beast of burden can hardly pass along; and, consequently, an imminent danger would attend the employing of mules for this service.

This city, even during the absence of the armada, is never without a great number of strangers; it being the thoroughfare for all going to the ports of Peru, in the South Sea, as also for any coming from thence to Spain: to which must be added, the continual trade carried on by the Peruvian ships, which bring variety of goods, as meal of different sorts, wines, brandy from grapes, or brandy castilla, as it is called by all the Americans in these parts, sugar, tallow, leather, olives, oil, and the like. The ships from Guayaquil bring cacao, and quinquina or Jesuits' bark; which always meet with a quick exportation here, especially in time of peace. All goods, particularly those of Peru, are subject to great alterations in their prices, so that, on many occasions, the owners lose considerably, and sometimes their whole purchase: on the other hand, there are favourable opportunities, when they triple it, according to the plenty or scarcity of the commodity. The different sorts of meals are in particular subject to this accident; they soon becoming so extremely vitiated by the great heat, that there is an absolute necessity for throwing them overboard. The wines and brandies also, from the heat of the jars, contract a pitchy taste, and are soon unfit for use. The tallow melts, becomes full of maggots, and turns into a kind of earth; the same may be observed of other goods. Hence, if the gain is sometimes great, the risk of the loss is proportional.

The coasting barks, which make frequent trips from the adjacent ports, supply the city with hogs, poultry, hung-beef, hogs'-lard, plantanes, roots, and other eatables; with all which, this city, by the industry of others, is abundantly supplied.

The Peru and Guayaquil vessels, unless at the time when the armada is here, return empty, except when they have an opportunity of taking Negroes on board; as, while the asiento subsists, there is at Panama a factory, or office, which corresponds with that at Porto Bello; and hither the Negroes are brought, as being, in some measure, the staple for them, with regard to the kingdoms of Terra Firma and Peru.

The president of Panama is invested with a power of licensing every year one or two ships, which go to Sonsonate, el Realejo, and other ports in the province of Guatemala and New Spain, to fetch from thence tar, naphtha, and cordage, for the vessels belonging to the Panama trade; they carry thither such parts of the Peruvian goods as do not find a market at Panama; but few of the ships which have obtained this permission return immediately; for the most profitable part of their trade consisting of indigo, they make the best of their way to Guayaquil, or other ports farther to the southward. The dearness of provisions in this city and its district, occasioned by the large quantity required, and the great distance from whence they are brought, is amply compensated by the multitude and value of the pearls found in the oysters of its gulf; and particularly those near the islands del Rey, Tabaga, and others, to the number of forty-three, forming

ing a small archipelago. The first to whom the Indians made this valuable discovery was Basco Nunez de Balboa, who, in his passage this way, to make farther discoveries on the South Sea, was presented with some by Tumaco, an Indian prince. At present they are found in such plenty, that there are few persons of substance near Panama, who do not employ all, or, at least, part of their slaves in this fishery, the manner of which not being commonly known, it will not be improper to describe it here.

The owners of the Negroes employ the most proper persons for this fishery ; which being performed at the bottom of the sea, they must be expert swimmers, and capable of holding their breath a long time. These they send to the islands, where they have huts built for their lodgings, and boats which hold eight, ten, or twenty Negroes, under the command of an officer. In these boats they go to such parts as are known to produce pearls, and where the depth of water is not above ten, twelve, or fifteen fathom. Here they anchor ; and the Negroes having a rope fastened round their bodies, and the other end to the side of the boat, they take with them a small weight, to accelerate their sinking, and plunge into the water. On reaching the bottom, they take up an oyster, which they put under the left arm ; the second they hold in their left hand, and the third in their right : with these three oysters, and sometimes another in their mouth, they rise to breathe, and put them in a bag. When they have rested themselves awhile, and recovered their breath, they dive a second time ; and thus continue, till they have either completed their task, or their strength fails them. Every one of these Negro divers is obliged daily to deliver to his master a fixed number of pearls ; so that when they have got the requisite number of oysters in their bag, they begin to open them, and deliver the pearls to the officer, till they have made up the number due to their master ; and if the pearl be but formed, it is sufficient, without any regard to its being small or faulty. The remainder, however large or beautiful, are the Negro's own property, nor has the master the least claim to them ; the slaves being allowed to sell them to whom they please, though the master generally purchases them at a very small price.

These Negroes cannot every day make up their number, as in many of the oysters the pearl is not at all, or but imperfectly formed ; or the oyster is dead, whereby the pearl is so damaged, as to be of no value ; and as no allowance is made for such pearls, they must make up their numbers with others.

Besides the toil of this fishery, from the oysters strongly adhering to the rocks, they are also in no small danger from some kinds of fish, which either seize the Negroes, or, by striking on them, crush them by their weight against the bottom. So that these creatures seem to know that men are robbing them of the most valuable product of their element, and therefore make a most vigorous defence against their enemy. The fishery on the whole coast is obnoxious to the same danger from these fish ; but they are much more frequent where such riches abound. The sharks and tintoreras, which are of an enormous size, feed on the bodies of these unfortunate fishermen ; and the mantas, or quilts, either press them to death by wrapping their fins about them, or crush them against the rocks by their prodigious weight. The name manta has not been improperly given to this fish, either with regard to its figure or property ; for being broad and long like a quilt, it wraps its fins round a man, or any other animal that happens to come within its reach, and immediately squeezes it to death. This fish resembles a thornback in shape, but is prodigiously larger.

Every Negro, to defend himself against these animals, carries with him a sharp knife, with which, if the fish offers to assault him, he endeavours to strike it in a part where it has no power to hurt him ; on which the fish immediately flies. The officers keep a watchful eye on these voracious creatures, and, on discovering them, shake the ropes

fastened

fastened to the Negroes' bodies, that they may be upon their guard; many, on the divers being in danger, have thrown themselves into the water, with the like weapon, and hasten down to their defence: but too often all their dexterity and precaution is not sufficient to protect the diver from being devoured by these fish, or losing one of his legs or arms by their bite. Several ineffectual schemes have been practised, to prevent such melancholy accidents.

The pearls of these fisheries are generally of a good water, and some very remarkable, both in their shape and size; but as there is a difference in both these properties, so there is also a difference in their water and colour; some being highly valuable, and others as remarkably defective. Some of these pearls, though indeed but few, are sent to Europe, the greater part being carried to Lima; where the demand for them is very great, being not only universally worn there by all persons of rank, but also sent from thence into the inland parts of Peru.

Besides these pearls, the kingdom of Terra Firma was formerly equally remarkable for the fine gold produced by the mines in its territories; and which consequently proved a very considerable addition to its riches. Part of these mines were in the province of Veraguas, others in that of Panama; but most, also the richest, and whose metal was of the finest quality, were in the province of Darien; and, on that account, the constant object of the miners. But the Indians revolting, and making themselves masters of the whole province, there was a necessity for abandoning these mines, by which means the greater part of them were lost; a few only remaining on the frontiers, which still yield a small quantity of gold. Their produce might indeed be increased, did not the fear of the fickle nature of the Indians, and the small confidence that can be placed on their apparent friendship, deter the masters of the mines from taking proper measures for improving them.

Though the mines of Veraguas and Panama are not exposed to these dangers, yet they are not worked with more vigour than the others; and this for two reasons: the first is, that, besides their being less rich in metal than the others, the gold they yield is not of so good a quality as that of Darien: the second, and indeed the most weighty, is, that as these seas, by their rich produce of pearls, offer a more certain, and at the same time a more easy profit, they apply themselves to this fishery preferably to the mines. Some, indeed, though but few, are worked, besides those above mentioned, on the frontiers of Darien.

Besides the advantage arising to Panama from its commerce, as the revenue here is not equal to the disbursements, a very considerable sum of money is annually remitted hither from Lima, for the payment of the troops, the officers of the audience, and others in employment under His Majesty.

#### CHAP. VI. — *Extent of the Audience of Panama, in the Kingdom of Terra Firma.\**

THE city of Panama is not only the capital of its particular province, but also of the whole kingdom of Terra Firma, which consists of the three provinces of Panama, Darien, and Veraguas. The first is the seat of every branch of the government, as being situated between the other two; Darien lying on the east side, and Veraguas on the west.

\* The appellation of Terra Firma has been absurdly extended by our mariners to Caraccas, &c.

The kingdom of Terra Firma begins northwards at the river of Darien, and stretching along by Nombre de Dios, Bocas del Toro, Bahia del Almirante, is terminated westward by the river de los Dorados in the North Sea; and towards the South Sea, beginning on the western part, it extends from Punta Gorda, in Costa Rica, by Punta de Mariatos, Morro de Puercos, to the gulf of Darien; whence it continues southward along the coast, by Puerto de Pinas, and Morro Quemado, to the bay of St. Bonaventura. Its length from east to west is one hundred and eighty leagues, but if measured along the coast, it exceeds two hundred and thirty; and its breadth, from north to south, is the same as that of the isthmus, which includes the whole province of Panama, and part of that of Darien. The narrowest part of this isthmus is from the rivers Darien and Chagre, on the North Sea, to those of Pito and Camito on the South Sea: and here the distance, from sea to sea, is about fourteen leagues. Afterwards it increases in breadth towards Choco and Sitara; and the same westward in the province of Veraguas, forming an interval of forty leagues from sea to sea.

Along this isthmus run those famous chains of lofty mountains, called the Andes, which, beginning at such a prodigious distance as the Terra Magellanica, traverse the kingdom of Chili, the province of Buenos Ayres, and thence through the provinces of Peru and Quito; and from the latter, contract themselves, as it were, for a passage through this narrow isthmus. Afterwards, again widening, they continue their course through the provinces and kingdoms of Nicaragua, Guatemala, Costa Rica, St. Miguel, Mexico, Guajaca, la Puebla, and others; with several arms or ramifications, for strengthening, as it were, the southern with the northern parts of America.

In order to give the reader a comprehensive idea of this kingdom, I shall speak particularly of each of its three provinces, beginning with that of Panama as the principal. Most of its towns and villages are situated in small plains along the shore, the rest of the country being covered with enormous and craggy mountains, uninhabited on account of their sterility.

In this province are three cities, one town, a few forts, villages, and country seats; the names of which, with the tribes of the inhabitants, are here subjoined.

The cities are Panama, Porto Bello, and Santiago de Nata de los Cavalleros. The situation of the latter was first discovered, in the year 1515, by captain Alonzo Perez de la Rua, at which time Nata was prince of this district. Gaspar de Espinosa was first commissioned to people it, under the title of a town. It was afterwards taken and burnt by the Indians, but he rebuilt it, and called it a city. It is large, but the chief houses are only of earth, or unburnt bricks, and the others of mud walls. Its inhabitants are a mixture of Spaniards and Indians.

The town called los Santos is a modern settlement of Spaniards, who before lived at the city of Nata, but, with a view of augmenting their fortune by improving the ground, left the city; and the inhabitants of the town are at present more in number than those of Nata. Its environs were first discovered by Rodrigo Valenzuela, and at that time contained an Indian town, governed by a prince called Guazan: the origin of the town sufficiently shews it is peopled by Spaniards and Indians.

The number of villages in this province is very considerable, and of different kinds.

1. Nuestra Senora de Pacora, to which we give the preference, is inhabited by Mulattos and their descendants.

2. San Christoval de Chepo owes its name to the caciques, or princes, Chepo and Chepauri, and was discovered in 1515, by Tello de Guzman. Besides Indians, here

is a company of foot, belonging to the garrison of Panama, most of whom are settled here with their families.

Several Rancherías, or assemblages of Indian huts, are under the jurisdiction of a village. These Rancherías are situated to the southward, in the small chasms or breaches of the mountains.

In the savannahs of the river Mamoni are several such assemblages of huts, and within the same jurisdiction; namely,

On the river De la Campana.

In the breach of Curcuti.

On the banks and at the mouth of the river Canas.

On the river Del Platanar.

On the river de Pinganti.

On the river De Bayano.

In the breach De Terralbe.

In that of Platanar.

In that of Calobre.

In that of Pugibay.

In that of Marcelo.

On the river de Mange.

Under the jurisdiction of the same village are also the following Rancherías, situated to the northwards.

On the river Del Playon.

On the smaller river De la Concepcion.

On the river de Guanacati.

On the river Del Caco, or Mandinga.

On the river De Sarati.

3. The village of San Juan, situated on the road between Panama and Porto Bello, is inhabited by Mulattos and their descendants.

4. The village of Nuestra Señora de la Consolation, a Negro settlement.

5. The village De la Santísima Trinidad de Chame, discovered by Captain Gonzalo de Badajoz, and called Chame from its prince at that time, is inhabited by Spaniards and Indians.

6. The village of St. Isidro de Quinones, discovered by the same officer, and then governed by its prince Totronagua: its present inhabitants Spaniards and Indians.

7. The village of St. Francisco de Paula, in the Cordillera; also inhabited by Spaniards and Indians.

8. The village of St. Juan de Pononome, so called from the name of its cacique; its inhabitants are Indians, who still retain the bow and arrow, at which they are very dextrous, and of an intrepid bravery.

9. The village of Santa Maria is situated in a tract of land discovered by Gonzalo de Badajoz. The name of its last prince was Escolia; it is at present wholly inhabited by Spaniards.

10. The village of Santo Domingo de Parita, the last word being the name of its prince. It was formerly inhabited wholly by Indians, but at present there are many Spaniards among them.

11. Taboga, Taboguilla, and other islands, near which the pearl fisheries are carried on, were discovered by the order of Pedro Arias Davila, the first governor and captain-general of the kingdom of Terra Firma. In these islands are houses belonging to Spaniards, and huts for the Negro divers.

12. The islands del Rey were discovered by Gaspar de Morales and Captain Francisco Pizarro. In these islands some Spaniards have houses, besides great numbers of Negro divers.

*Second Province of Terra Firma.*

THE second province of this kingdom is that of Veraguas, of which the city of Santiago is the capital. The first who discovered this coast was Admiral Christopher Columbus, in 1503. To the river now called Veragua, he gave the name of Verdesaguas, on account of the green colour of its water; or, according to others, because the Indians called it by that name in their language. But, however that may be, it is from this river that the province derives its name. In 1508, the Captains Gaspar de Espinosa, and Diego de Alvirez, renewed the discovery by land; but being repulsed by prince Urraca, were obliged to content themselves with a settlement in the neighbourhood: and even here the Spaniards were not able to maintain their ground against the frequent incursions of the Indians; so that, finding the absolute necessity of a stronger settlement, they built the city of Santiago de Veraguas on the spot where it now stands.

Besides this city, the province contains two others, and several villages.

The city of Santiago al Angel was founded in 1521 by Benedict Hurtado, governor of Panama: it has been twice destroyed and rebuilt: the inhabitants partly Spaniards, partly Mulattos.

The city of Nuestra Senora de los Remedios de Pueblo-Nuevo; the inhabitants the same as those of the former.

1. The villages in this province are San Francisco de la Montana, inhabited by Indians using bows and arrows.

2. San Miguel de la Haya, inhabited by different sorts of people.

3. San Marcelo de Leonmefa de Tabarana, inhabited by Indians.

4. San Raphael del Guaymi, by Indians.

5. San Philippe del Guaymi, by Indians.

6. San Martin de los Castos, by Indians.

7. San Augustin de Ulate, by Indians.

8. San Joseph de Bugava, by Indians.

9. and 10. La Piedad, and San Miguel, by Indians.

11. San Pedro, and San Pablo de los Platanares, by Indians.

12. San Pedro Nolasco, by Indians.

13. San Carlos, by Indians.

*Third Province of Terra Firma.*

THE third province of Terra Firma is that of Darien, where the greater part of the inhabitants are wandering Indians, living without any religion, and in the most shocking barbarism, which was indeed the motive of their revolt. In 1716, there was here a considerable number of villages, Rancherias, and Doctrinas\*, whose inhabitants had sworn allegiance to the King of Spain, and therefore under the governors of Panama;

\* A name, given by the Jesuits, to Indian communities, which they have gathered together and civilized.

though, at present, very few are remaining. Those remaining in the above-mentioned year, were,

1. The village and staple for the mines of Santa Cruz de Cana, a very considerable settlement of Spaniards and Indians.

2. The village De la Concepcion de Sabalo, inhabited like the preceding, but less populous.

3. The village of San Miguel de Tayequa; inhabitants the same.

4. The village of San Domingo de Balfas, inhabitants like the others, being Spaniards and Indians.

5. Spanish village, in the territory of Santa Marica.

6. The Doctrina San Geronymo de Yabira, a word in the Indian language signifying Doncel, i. e. a virgin; and, for this reason, the river near it is called Rio Doncel, or Virgin River.

7. San Enrique de Capeti, or the sleepy.

8. Santa Cruz de Pucro. In the Indian language, Pucro signifies a sort of light wood, which, at Guayaquil, is called Balsa.

9. The Doctrina de San Juan de Tacaracuna, and Matarnati; the names of two of the mountains of the Andes, contiguous to the community.

10. The Indian village of San Joseph de Zete-Gaati, is not a Doctrina. Zete-Gaati is the name of a kind of willow growing in the neighbourhood.

#### *Rancherias and Hamlets in the Southern Parts.*

The hamlet of Nuestra Senora del Rosario de Rio Congo.

Other hamlets on the rivers Zabalos, Balfas, and Uron.

On the river Tapanacul.

On the river Pucro.

On the banks, and at the mouth of the river Paya.

At Los Paparos, or the Peasants.

On the river Tuquesa.

On the river Tupisa.

On the river Yabisa.

And at Chepigana.

#### *Rancherias and Hamlets in the Northern Parts.*

On the river Queno.

On the Seraque.

On the Sutagunti.

On the Moreti.

On the Agrafenequa.

On the Ocabajanti.

On the Uraba.

All these Doctrinas and communities were formerly of Indians, and not inconsiderable, some of the latter consisting of four hundred persons; but their general number was between one hundred and fifty and two hundred; from whence we may form an idea of the populousness of these Doctrinas. But, to save the trouble of computing the

the several inhabited places in this kingdom, as I thought proper to insert their names, I shall conclude with a concise list of all these places, which will assist the reader in forming some idea of this country.

*Recapitulation of all the inhabited Places in the Kingdom of Terra Firma.*

Four fortresses.

Six cities.

One town of Spaniards and Indians.

Thirty-five villages	-	-	{	Eleven of Spaniard and Indians.
			{	Two of Mulattos and Negroes.
			{	Twenty-two of Indians, most of them Doctrinas.

Thirty-two Rancherias or hamlets, each containing several cottages scattered among the breaches, along the sides of rivers and savannahs.

Forty-three islands, where the pearl-fishery is carried on, some of them in the bay of Panama, some near the coast of that city, and others south of Veraguas.

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BOOK IV.

VOYAGE FROM PERICO HARBOUR TO GUAYAQUIL.

CHAP. I. — *Voyage from Perico to the City of Guayaquil.*

OUR tents and other necessaries being ready, we all embarked on board the St. Christopher, captain Don Juan Manuel Morel; and the next day, being the 22d of February 1736, we set sail; but having little wind, and that variable, it was the 26th at sunset before we lost sight of the land, the last we saw being Punta de Mala.

By remarks repeatedly made till we lost sight of this last point, and which agreed with observations, but differed from those by account, we found the setting of the current to be south-west  $5^{\circ}$  westerly; which observation corresponded with the accounts given us by able pilots, who assured us it continued to three or four degrees of latitude; and, according to their farther information, we corrected our daily account at one mile and one sixth per hour; and found their information to be well founded. But it is necessary to observe, that, till our ship was off Punta de Mala, there was no visible current; and that, whilst we continued sailing in the gulf of Panama, the latitude by account agreed with the observed.

From the time we set sail, till Punta de Mala bore from us north-west  $6^{\circ} 30'$  westerly, we continued to steer S. S. W.  $1^{\circ} 30'$  and  $8^{\circ} 30'$  westerly: the winds variable with calms.

After passing Punta de Mala, we steered S. between  $8^{\circ}$  westerly and  $2^{\circ} 30'$  easterly, till six in the evening of the first of March 1736, when we discovered the land contiguous to St. Matthew's bay. Upon which we stood to the S. W. to avoid a ledge of rocks, which runs three leagues into the sea, and also the currents, which set towards it, and Gorgona bay.

This ledge of rocks was discovered in 1594, by a ship's striking on it.

From St. Matthew's bay, we, for some hours, steered south-west  $6^{\circ} 15'$  westerly; and the next day south-east and one-fourth southerly; which, being the third day, at one in the afternoon, brought us in sight of Cape St. Francis, bearing north one-fourth easterly.

According to the reckoning of Don George Juan, the difference of meridians between Panama, and Cape St. Francis was  $0^{\circ} 36'$ ; which nearly agrees with the map of this coast. It must, however, be supposed that the distance between each knot on the log-line was forty-seven feet by five and an half royal inches, which is equal to fifty and an half English feet: this confirms what we have already observed, book I. chap. i. and proves the justness of our observations on the currents.

Having weathered this cape, we steered west  $3^{\circ}$  southerly; south-west  $3^{\circ}$  westerly; and on the 6th and 7th south  $7^{\circ}$  easterly, and south-east  $6^{\circ}$  easterly; till on the 7th, at eight in the morning, we again made Cape St. Francis, bearing north  $5^{\circ}$  easterly, and Cape Passado south; after which we coasted along shore, observing the most remarkable parts, till the 9th, when, at half an hour after three in the evening, we came to an anchor in Manta bay, in eleven fathom water, the bottom mud mixed with sand: Cape St. Lorenzo, bearing west-south-west and Monte Christo south-south-east  $6^{\circ}$  easterly.

Two reasons induced us to anchor here: the first was, that as part of the intention of our original voyage was to measure some degrees of the equator, besides those of the meridian; and having been informed at Panama of the situation of this coast, we were desirous of viewing it, in order to know whether, by forming our first base on its plains, the series of triangles could be continued to the mountains contiguous to Quito: the second, the want of water and provisions; for the season being pretty far advanced, we had flattered ourselves, while at Panama, with falling in with the brisas, and by that means of soon reaching Guayaquil; and had therefore taken in provisions only for such a short voyage.

In order to satisfy ourselves with regard to our first and principal view, we all went on shore on the 10th in the evening to the village of Monte Christo, about two leagues and a half from the coast. But we soon found any geometrical operations to be impracticable there, the country being every where extremely mountainous, and almost covered with prodigious trees, an insurmountable obstruction to any such design. This being farther confirmed to us by the Indian inhabitants, we determined to pursue our voyage to Guayaquil, and thence to Quito. Accordingly, on the 11th we returned to the coast of Manta, where, whilst the ship was taking in water and provision, we employed ourselves in making observations, by which we found the latitude of this place to be  $56^{\circ} 5\frac{1}{2}'$  south. But Messrs. Bouguer and De la Condamine, reflecting that our stay at Guayaquil would be considerable before the season would permit the mules to come from Guaranda to carry us to the mountains, and desirous of making the best use of their time, determined to stay here, in order to make further observations on the longitude and latitude, that they might ascertain the place where the equator cuts this coast, examine the length of the pendulum, and make other observations equally important. Accordingly proper instruments were left with them.

On the 13th of the same month of March, our vessel put to sea, keeping along the coast, and passed the next day within the island de la Plata. The 15th we began to lose sight both of Cape St. Lorenzo, and also of the island; at one in the afternoon we steered south-south-east, till the 17th, when we discovered Cape Blanco, the south point of the Bay of Guayaquil. From Cape Blanco we coasted along the bay, till, about noon on the 18th, coming to the mouth of the river Tumbez, we anchored

anchored about half a league from the land; the river's mouth bearing east five degrees northerly, and the island of Santa Clara, commonly called Amortajado, or Muerto, from its resembling the figure of a human corpse, north four degrees easterly, in fourteen fathoms water, and a muddy bottom.

Some particular affairs of the captain of the ship obliged us to remain here till the 20th, when, at six in the morning, we weighed; and at half an hour after six in the evening, the strength of the current on the ebb obliged us to come to an anchor. Thus we continued anchoring every ebb, and sailing during the flood. And here we found that the current always sets out of the bay, though with much less velocity on the flood than on the ebb; for we observed that the tide never altered its direction in nineteen hours and a half. The cause of this phenomenon is supposed to be, the prodigious quantity of water discharged into it by the rivers. On the 23d, having come to an anchor off Punta de Arenas in the island of Puna, we sent on shore for a pilot to carry in our ship; for, though the distance was only seven leagues, the great number of shallows in this short passage rendered a precaution of this kind prudent, if not absolutely necessary; and on the 24th, at seven in the morning, we safely anchored in Puna harbour, Cape Centinela bearing south-south-west  $2^{\circ} 30'$  westerly, and Cape Maria Mandinga west-north-west  $1^{\circ} 15'$  westerly, distant one quarter of a league.

From Punta de Mala to St. Matthew's bay, we had the wind first at north, and north-west; afterwards it shifted to the north-east, and during the last day veered to the east-north-east; but when we came in sight of this bay, changed again to north, being preceded by rains, which continued till our arrival at Manta, the winds having shifted to the south-east, south, and south-west and west, but with some variations from all those points.

I have already mentioned that at St. Matthew's bay it was not only the opinion of the pilots relating to the currents which set towards Gorgona, but also our own experience, that induced us to alter our course, which was necessary, in order to continue our voyage. All the rest of the coast, from Cape St. Francis to Manta, they set to the north, and this prevented us from getting to windward, and obliged us to tack, as the wind was contrary.

In our passage from Manta to Cape Blanco, the winds were not less favourable, continuing as before, except a few gales at north-west and north-north-east, till we made the above cape. The currents here also set to the northward, and from Cape Blanco to Puna harbour, to seaward, that is, towards the west; but, as we have before observed, a greater velocity on the ebb than on the flood.

Being very desirous of observing an eclipse of the moon, which was to happen on the 26th of March, and our time for preparing for it being but short, we concluded to stay at a little village situated in this harbour; but finding these houses, which were entirely built of canes, too weak to support the pendulum, we determined to make the best of our way to Guayaquil; and accordingly, at half an hour after eleven at night we left the ship at anchor, and went to the city in a boat; and, at five in the evening of the 25th, by the vigour of our rowers, we arrived at Guayaquil, notwithstanding the strength of the tide against us. Here we immediately applied ourselves to settle the pendulum; but our diligence was entirely frustrated, the air being so filled with vapours, that nothing was to be seen.

It may not be amiss here to insert the variations we observed in different parts of the South Sea, in the same order with those observed from Cadiz to Carthagen.

*A Table of Variations observed in several Parts' of the South Sea, the Longitude reckoned from the Meridian of Panama.*

Latitudes. deg. min.	Longitude. deg. min.	Variation. deg. min.
8 17N.	359 55	8 45 E.
7 49	359 42	7 34
7 30	359 31	7 49
7 02	359 18	7 59
3 55	358 21	7 34
0 56	358 43	7 20
0 36	359 06	8 29
0 20	358 40	7 25
0 15	358 56	7 30
0 22 S.	359 50	8 17
0 51	{ Monte Christo, bearing S. E. $\frac{1}{4}$ southerly }	8 00
Island de la Plata, bearing south 15° 45' westerly, and Monte Christo, E. S. E. }		
2 18S.		8 00
Cape Blanco, S.S.W.		3 30 W.
Punto de Mero, E. 7° northerly distant three leagues	{ }	8 100
On the coast of Sumbar, of which the latitude by observation was 3° 14'		8 11

We should, for several days, have been without knowing certainly the latitude, an object of the last importance in any voyage, had not Mr. Godin had the precaution to take with him a Hadley's quadrant. This ingenious gentleman having been pitched upon for the voyage to America, undertook a journey to London, purely to purchase several instruments, and among others bought that already mentioned; and which proved of the greatest use to us in finding the latitude during this passage; a point the more difficult and necessary, on account of several perplexing circumstances, the course being sometimes north, sometimes south, and the currents setting in the same direction. Assisted by this instrument, we were enabled to take the meridian altitude of the sun, whilst, from the density of the vapours which filled the atmosphere, the shadow could not be defined on the usual instruments.

#### CHAP. II. — *Account of the Voyage from Perica to Puna.*

THE brisas, by their return, as we before observed, occasion an alteration in the weather of Panama, by introducing the summer, as they also do in the passage from  
Perico

Perico to Puna, or more properly, to Cape Blanco; for, after the brisas have begun to blow at Panama, they gradually increase and spread in opposition to the south winds, till, overcoming them, they are settled: but their periods are not always equal, either on the land or in the ocean. Generally the brisas do not reach beyond the equator, or are so faint, as often to be interrupted by calms, or other weak and unsettled winds. Sometimes, indeed, they have an extraordinary strength, being felt even to the island of Plata: but their greatest force is gradually increased as we approach nearer to Panama. These winds, which blow from between the north and north-east, clear the atmosphere, free the coast from fogs, and are not attended with tempests of rain; but frequently so squally, especially between Cape Francisco and the Bay of Panama, that, without particular care and the utmost dispatch in putting the ship in a proper condition, they are often dangerous.

At the period of the brisas, the fures or south winds begin to blow, and, when settled, are more violent than the former. But they do not, as many have imagined, blow always precisely from the south; for they shift from the south-east even to the south-west, and their distance from the south is observed to be greatest at particular times. When they incline to the south-east, which is the land side, they are accompanied with violent, but happily short tempests of wind and rain. The ships which trade from the coasts of Peru and Guayaquil to Panama, generally sail during the fures, in order to take the benefit of the north wind at their return, and, by that means their voyages are easily and expeditiously performed. Sometimes, indeed, they sail with other winds, though they are generally longer at sea, in order to reach Paita; but often this diligence, or rather avarice, is so far disappointed, that they are obliged to put in at Tumaco, Acames, Manta, or Punta de Santa Elena, for provisions and water.

These are the principal winds in this passage; and whatever changes may sometimes happen, they are not of any continuance, the settled wind soon recovering its place.

The currents in these parts are not so regular as the winds; for, during the brisas, the waters run from Morro de Puercos south-west and west, to the height of Malpelo; and from thence east and east-south-east to Cape St. Francis, inclining something towards Gorgona. From Cape St. Francis, their direction is south and south-west, which continues for thirty or forty leagues seawards, the strength of them being proportionate to that of the brisas.

During the season of the fures, or south winds, the currents run north and north-west from Punta de Santa Elena, as far as Cape St. Francis, extending thirty or forty leagues seawards; from hence they run with a great velocity east, as far as the meridian of Malpelo; and from Morro de Puercos south-east along the coast, though at some distance from it, and tending partly to the bay of Gorgona. But from the meridian of Malpelo to Morro de Puercos, they run with great violence north-west and west. Also in the passage from Cape Blanco to Cape Santa Elena, a violent current runs west from the river of Guayaquil, during its swellings; but when the river is low, the current sets into Puna bay: the time of the former is during the brisas, and the latter in the season of the fures.

At all times, in leaving Perico to sail to Guayaquil, or the coast of Peru, care must be taken to keep at a proper distance from the island of Gorgona, many instances having happened of ships being lost either by this negligence, or more frequently, by calms. It is also equally necessary to be careful of the island of Malpelo; but the latter is of the two the least dangerous, as the greatest detriment is only a longer delay of the voyage.

If a ship happens to come in sight of the island of Gorgona, it will be found very difficult to get clear of it by steering either south-south-west, or even north, so that the surest method is to return towards Panama along the coast, the currents there changing their direction; at the same time taking care not to keep at a great distance from it, to avoid being again carried away by the current, which sets south-east.

The land all along the coast from Panama to Santa Elena is of a middling height, except in some parts, where we discern mountains at a vast distance, and very high; being part of the Cordillera. Monte Christo is the land-mark of Manta, being a high mountain, and having a village of the same name at its foot.

In the bays along this coast, and particularly at the mouths of rivers, it is dangerous to keep close to the shore, there being many shallows not known even to the pilots of the country. In the bay of Manta, there is one at the distance of three or four leagues from the shore, on which several ships have struck; but the water is here so smooth, that all the damage they sustained was, their being obliged to be immediately careened, in order to stop the leaks occasioned by the accident.

In all this passage a rough sea is seldom met with; for, if it be sometimes agitated by squalls and short tempests, it soon subsides after the storm is over. Whilst the south winds prevail, fogs are very frequent, and sometimes so thick as totally to preclude all sight of the coast. This we ourselves partly experienced in our passage: whereas during the brisas, it is quite the contrary: the air is serene, and the coast so clear as to be approached with confidence and safety.

### CHAP. III. — *Of our Stay at Guayaquil, and the Measures taken for our Journey to the Mountains.*

THE ship St. Christopher, which we left at Puna, followed us so soon, that on the 26th in the evening she came to an anchor before the city; the next day all our baggage and instruments were landed, and we began our observations for determining the situation of Guayaquil, with regard to its latitude and longitude. The desire of succeeding rendered us very attentive to observe an immersion of the satellites of Jupiter, to make amends for our disappointment of the eclipse of the moon; but we were in this equally unfortunate; the density of the vapours which filled the atmosphere rendered our design abortive; but, the days being more favourable than the nights for astronomical observations, we took several meridian altitudes of the sun, and never neglected any opportunities that offered, during the nights, of doing the same with regard to some particular stars.

On our arrival at Guayaquil, the corregidor of that city, whose great civility, together with that of all the King's officers and other persons of distinction, deserves our acknowledgments, sent notice of it to the corregidor of Guaranda, that he might order carriages to the port of Caracol, for conveying us to the mountains. The passage thither was then indeed impracticable; it being in this country the end of winter, at which time the roads are extremely bad, and the rivers swelled so as not to be forded without the greatest risk, and too wide for the bridges of this country.

The corregidor of Guaranda was then at Quito on some business of his office; but the president and governor of that province, Don Dionysio de Alcedo y Herrera, ordered him to return to his jurisdiction without delay, for providing every thing necessary for our journey; sending, at the same time, circular orders to all the other corregidores through whose jurisdictions we were to pass to Quito, enjoining them not to be

wanting in any kind of good office in their power. Every thing being thus happily disposed, and advice arriving that the mules were on their way to Caracol, where they arrived the 6th of May, we were no less expeditious to embark on the river, which is the usual passage. There is indeed a road by land; but at all times extremely difficult and dangerous, on account of the many bays and large rivers which must be passed; so that no person travels this road but in summer, and then only such as have no baggage, and are, besides, well acquainted with the country and the ferries.

#### CHAP. IV. — *Description of Guayaquil.*

THOUGH there is no certainty with regard to the time when Guayaquil was founded, it is universally allowed to be the second city of Spanish origin, both in its own province and the kingdom of Peru; it appearing, from antient records preserved in its archives, that it was the next city founded after San Miguel de Piura: and the foundation laid of Los Reyes, Remac, or Lima, being in 1534, or according to others, in 1535, the building of Guayaquil may be fixed between those two years; but the prosperity it attained under its governor Belalcazar, was of no long continuance, being, after several furious attacks, entirely destroyed by the neighbouring Indians. It was however in 1537, rebuilt by Captain Francisco de Orellana. The first situation of Guayaquil was in the bay of Charapoto, a little to the northward of the place where the village of Monte Christo now stands; from whence it was removed to the present spot, which is on the west bank of the river of Guayaquil, in  $2^{\circ} 11' 21''$  of south latitude, as appeared from our observations. Its longitude was not determined by any accurate observations; but by computing it from those made at Quito, it is  $297^{\circ} 17'$ , reckoning from the meridian of Teneriffe. On its removal by Orellana, from its first situation, it was built on the declivity of a mountain called Cerillo Verde, and is now termed Ciudad Vieja, or the old town. Its inhabitants being afterwards straitened by the mountain on one side, and by ravines or hollows made by floods of rain on the other, formed a design, without entirely abandoning the place, to build the principal part of the city at the distance of five or six hundred toises; which was accordingly begun in 1693; and for preserving a communication with the old part, a bridge of timber was erected, of about three hundred toises in length, by which means the inconveniences of the ravines are avoided, and, the intervals being filled with small houses, the old and new towns are now united.

This city is of considerable extent, taking up, along the bank of the river from the lower part of the old town to the upper part of the new, near half a league; but the breadth is not at all proportional, every person being fond of having a house near the river, both for the amusements it affords, and for the benefit of refreshing winds, which, in winter, are the more eagerly coveted as they are very rare.

All the houses of both towns are built of wood, and many of them covered with tiles; though the greater part of those in the old town are only thatched; but in order to prevent the spreading of fires, by which this city has severely suffered on several occasions, such covering is now prohibited. Most of these conflagrations owed their rise to the malevolence of the negroes, who, in order to revenge some punishments inflicted on them by their masters, took the opportunity, during the night, of throwing fire on the thatch, and by that means, not only ruined those who were the immediate objects of their revenge, but also the greater part of the inhabitants of the city.

Though the houses are wholly built of wood, they are generally large and beautiful; have all one story and an entresole; the back part of the ground floor serves for warehouses; in the front are shops of all kinds, and generally before them spacious porticos, which in winter are the only parts where you can walk, the streets being utterly impassable.

As a further precaution against fire, which they have so much reason to dread, the kitchens stand twelve or fifteen paces from the houses, with which they communicate by means of a long open gallery, resembling a bridge; but so lightly built, that on the least appearance of fire in the kitchen, it is demolished in an instant; by which means the house is preserved. Persons of rank and fortune live in the upper apartments, and the entresoles are let to strangers who come to trade, or pass through the city with their goods.

The ground on which the new city is built, and the savannahs in its neighbourhood, are not to be travelled over either on foot or horseback during the winter; for, besides being a spongy chalk, it is every where so level, that there is no declivity for carrying off the water; and therefore on the first rain, it becomes one general slough. So that, from the time of the rains setting in till the end of winter, it is necessary to lay in the parts not covered by the above-mentioned piazzas, very large planks for crossing over them; but these soon become slippery, and occasion frequent falls into the chalky slough. The return of summer, however, soon exhales the water, and renders the ground sufficiently dry for travelling. In this respect the old town has the advantage, being built on a gravelly soil, which is never impassable.

This city is defended by three forts, two on the river near the city, and the third behind it, guarding the entrance of a ravine. These are all built after the modern method of fortification; but before they were erected, it had only a platform, which is still remaining in the old town. These forts are built of large pieces of very hard wood, forming a variety of palisades, and the wood is particularly proper for this country, and the use it is here applied to; retaining its solidity either under the water or in the mud. Before these fortifications were erected, the city was taken by European corsairs, in the year 1686 and 1709; but the success of the latter was owing to the villainy of a mulatto, who, in order to revenge himself on some particular persons in the city, conducted the enemy through a bye-way, where they were not expected; so that the inhabitants being surprised, were not prepared for defence.

All the churches and convents are of wood, except that of St. Domingo, still standing in the old town, which is of stone; the great solidity of the ground in that part being sufficient for supporting buildings of this kind. The convents in the new city, besides the parochial church, are an Augustine and a Franciscan, with a college of Jesuits; the members of them not very numerous, on account of the smallness of the revenues. Here is also an hospital, but without any other endowment than the shell of the building. The city and its jurisdiction are under a corregidor, nominated by the King, who holds his office during five years. Notwithstanding he is subordinate to the president and audience of Quito, he appoints the deputies in the several departments of his jurisdiction; and, for the police and civil government, Guayaquil has ordinary alcaldes and regidores. The revenue is managed here by a treasurer and an accountant, who receive the tributes of the Indians, the duties on imports and exports, and the taxes on commodities, which are either consumed there, or carried through it.

The ecclesiastical government is lodged in the bishop of Quito's vicar, who is generally also the priest of the town.

CHAP. V. — *Of the Inhabitants, Customs, and Riches of Guayaquil.*

GUAYAQUIL contains, in proportion to its dimensions, as many inhabitants as any city in all America; the continual resort of strangers, drawn thither by commerce, contributing very greatly to increase the number, generally computed at twenty thousand. A great part of its eminent families are Europeans, who have married there; besides which, and substantial Creoles, the other inhabitants are of different casts, as in the cities already described.

The inhabitants capable of bearing arms, are divided into companies of militia, according to their rank and cast; so that on occasion they may be ready to defend their country and property. One of these, consisting entirely of Europeans, and called the foreign company, is the most numerous, and makes the most splendid appearance among the whole militia. Without considering their wealth or station, they appear in arms, and pay a proper obedience to their officers, who are chosen by themselves from their own body, being generally such as have served in Europe, and consequently more expert in military affairs. The corregidor is the commander in chief; having under him a colonel and major, for disciplining the other companies.

Though the heat here is equal to that of Panama, or Carthagena, yet the climate distinguishes itself in the colour of the human species; and if a certain author has styled it the equinoctial Low Countries, in allusion to the resemblance it bears to the Netherlands of Europe, it may, with equal propriety, bear that appellation from this singularity, namely, that all the natives, except those born from a mixture of blood, are fresh-coloured, and so finely featured, as justly to be styled the handsomest, both in the province of Quito, and even in all Peru. Two things are here the more remarkable, as being contrary to common observation: one, that notwithstanding the heat of the climate, its natives are not tawny; the other, that though the Spaniards have not naturally so fair a complexion as the northern nations, their children born here of Spanish women are very fair; nor has this phenomenon hitherto been sufficiently explained. To attribute it to the effluvia exhaling from the contiguous river, appears to me little satisfactory; other cities having the same advantageous situation, without producing any improvement in the complexions of the inhabitants; whereas here fair persons are the most common, and the children have universally light hair and eye-brows, and very beautiful faces.

To these personal advantages bestowed by nature in a distinguished manner on the inhabitants, it has added the no less pleasing charms of elegance and politeness; so that several Europeans, who intended only a short stay here, have married and settled; nor were their marriages owing to the immense fortunes of their ladies, as in some other cities of this country, the inhabitants not being at all famous for their riches.

The dress of the women at Guayaquil nearly resembles that at Panama, except only when they either pay or receive a visit; instead of the pollera, they wear a faldellin, which is no longer than the pollera, but being open before, and crossing one side over the other, is adorned in the most profuse manner. It is furbelowed with a richer stuff, near half a yard in depth, and bordered with fine laces, gold or fringe, or ribands, disposed with an air which renders the dress extremely rich and becoming. When they go abroad without a veil, they wear a light brown-coloured mantelet, bordered with broad strips of black velvet, but without laces or any other decorations. Besides necklaces and bracelets, they wear rosaries, of the same degree of richness as

at Panama; and not only load their ears with brilliant pendants, but add tufts of black silk, about the size of a filbert, and so full of jewels, as to make a very splendid appearance.

From the commerce of this city, a stranger would imagine it richer than it actually is. This is partly owing to the two dreadful pillages it has suffered, and partly to fires, by both which it has been totally ruined. And though the houses here, as already observed, are only of wood, the whole charge of which is the cutting and bringing it to the city; yet the expence of a house of any figure amounts to fifteen or twenty thousand dollars, workmen's wages being very high, and iron remarkably dear. Europeans, who have raised any thing of a fortune here, when they have no immoveable goods to detain them, retire to Lima, or some other city of Peru, where they may improve their stocks with greater security.

CHAP. VI. — *Of the Temperature of the Air, and the different Seasons at Guayaquil; its Inconveniences and Distempers.*

IN Guayaquil, the winter sets in during December, sometimes at the beginning, sometimes in the middle, and sometimes not till the end of the month, and lasts till April or May. During this season, the elements, the insects, and vermin, seem to have joined in a league to incommode the human species. Its extreme heat appeared from some thermometrical experiments; for, on the 3d of April, when its intenseness had begun to abate, at six in the morning the liquor stood at one thousand and twenty-two; at noon at one thousand and twenty-five; and at three in the afternoon at one thousand and twenty-seven; which shews the heat in the middle of winter to be greater than at Carthagenæ. The rains also continue day and night, accompanied with frequent and dreadful tempests of thunder and lightning; so that every thing seems to conspire to distress the inhabitants. The river, and all those which join it, overflow their banks, and lay under water the whole country. The long calm renders the refreshing winds very desirable; and the innumerable swarms of insects and vermin infect both the air and ground in an intolerable manner.

The snakes, poisonous vipers, scorpions, and scolopendræ, in this season find methods of getting into the houses, to the destruction of many of the inhabitants. And though they are not actually free from them all the rest of the year, yet at this time they are far more numerous, and also more active; so that it is absolutely necessary to examine carefully the beds, some of these animals having been known to find their way into them: and both as a safeguard against the danger, and to avoid the tortures of the moschitos and other insects, all persons, even the Negro slaves and Indians, have toldos or canopies over their beds. Those used by the lower class of people are made of tucuyo, or cotton, wove in the mountains; others use white linen laced, according to the temper or ability of the owner.

Though all these hot and moist countries swarm with an infinite variety of volatile insects, yet the inhabitants are no where so greatly incommoded as at Guayaquil, it being impossible to keep a candle burning, except in a lantern, above three or four minutes, numberless insects flying into its flame and extinguishing it. Any person therefore being obliged to be near a light, is soon driven from his post by the infinite numbers which fill his eyes, ears, and nostrils. These insects were almost insupportable to us, during the short clear intervals of some nights, which we spent in making observations on the heavenly bodies. Their stings were attended with great tortures; and more than

than once obliged us to abandon our observations, being unable either to see or breathe for their multitudes\*.

Another terrible inconvenience attending the houses here, are the numbers of pericotes, or rats; every building being so infested with them, that, when night comes on, they quit their holes, and make such a noise in running along the ceiling, and in clambering up and down the sides of the rooms and canopies of the beds, as to disturb persons not accustomed to them. They are so little afraid of the human species, that, if a candle be set down without being in a lantern, they immediately carry it off; but, as this might be attended with the most melancholy consequences, care is taken, that their impudence is seldom put to this trial, though they are remarkably vigilant in taking advantage of the least neglect. All these inconveniences, which seem insupportable to strangers, and alone sufficient to render such a country uninhabited, little affect the natives, as having been used to them from their infancy: they are more affected with cold on the mountains, which the Europeans so soon feel, or, at least, think very moderate, than with all these disagreeable particulars.

The least troublesome season is the summer, as then both the number and activity of these vermin are diminished; it being a mistake in some authors to say they abound most in that season. The heat is then abated, by the setting in of the south-west and west-south-west breezes, called here *chandui*, as coming over a mountain of that name. These begin constantly at noon, and continue to refresh the earth till five or six in the following morning. The sky is always serene and bright, the gentlest showers being rarely known. Provisions are in greater plenty, and those produced in the country of a very agreeable taste, if used while fresh. Fruits are more common, especially melons and water-melons, which are brought in large *balzas*† to the city. But the capital advantage is the remarkable salubrity of the air in that season.

During the winter, tertian fevers are very common, and are here particularly painful and dangerous, owing partly to neglect, and partly to an aversion to the use of the bark, being prepossessed with a notion, that on account of its hot quality it can have no good effect in that climate; so that, blinded with this prejudice, without ever consulting physicians, who would undeceive them, they suffer the distemper to prey upon them, till they are often reduced to an irrecoverable state. The natives of the mountains, who are inured to a cold air, cannot endure that of Guayaquil, it having a natural tendency to debilitate them; and by an intemperate use of its delicious fruits they throw themselves into those fevers, which are as common to them in one season as another.

Besides this disease, which is the most general, since the year 1740 the black vomit has also made its appearance, the galleons of the South Sea having, on account of the war, touched here in order to secure the treasure among the provinces of the Cordillera. At that time great numbers died on board the ships, together with many foreigners, but very few of the natives. In saying that the galleons brought this distemper to Guayaquil, I follow the general opinion, as it was before that epocha unknown there.

The natives are very subject to cataracts, and other distempers of the eye, which often cause a total blindness. Though these distempers are not general, yet they are much more common than in other parts; and I am inclined to think it proceeds from the aqueous exhalations during the winter, when the whole country is overflowed with water, and which, from the chalky texture of the soil, must be viscid in the highest

\* This account is too hyperbolical. They are, however, troublesome enough, and almost insupportable, throughout all South America, except in the plains and deserts. A.

† Called by the natives *jungadas*: they are rafts made by pinning or tying several bodies of small trees together: the author describes them particularly in the next chapter. A.

degree; and, penetrating the external tunic, not only foul the crystalline humour, but also cover the pupil, from whence cataracts, and other disorders of the eyes, have their origin.

## CHAP. VII. — *Provisions, and Manner of Living at Guayaquil.*

HERE, as at Carthagena, nature and necessity have introduced several kinds of bread, made from different grains and roots, to supply the want of wheat. The most usual here is the criollo, or natural bread, being unripe plantanes, cut into slices, roasted, and served up as bread. But this is not entirely owing to necessity, as several kinds of meal might easily be brought from the neighbouring mountains in sufficient quantities to supply all the inhabitants of the city; though only a small share of it would fall to the lot of the poor, on account of the price, which vastly exceeds that of the plantanes. However this be, the latter are deservedly preferred to wheat bread, which is so badly made, that even the Europeans refuse to eat it, and accustom themselves to the criollo, which is far from being unpalatable.

Most of the other provisions, except beef, fruits, and roots, are imported from the provinces of the Cordilleros and Peru. It would naturally be expected, that the several branches of this river, which abounds in fish, would cause a great plenty of them in the city; but it is quite otherwise, and the small quantity caught near it is far from being good, and so bony, that none but the inhabitants can eat them without danger. Their badness in the neighbourhood of the city is probably owing to the brackish water; but some leagues above the city, the river affords a great supply of what is very excellent. In such hot climates, however, they cannot be kept without salt; and it is seldom the fishermen venture to carry any to the city, lest, after all their labour, they should be obliged to throw them away.

The coasts and neighbouring ports abound in very delicious fish, some of which are carried to the city, as keeping better than the species in the river; and these, together with several of the testaceous kind, constitute a considerable part of the food of the inhabitants of Guayaquil. In the salt creek are taken very large and fine lobsters, of which they make delicious ragouts: and from Jambeli creek, on the coast of Tumbez, are brought great quantities of oysters, which, in every respect, surpass those of all the coasts from Panama to Peru, where there is also a great demand for them.

The same cause which drives from that part of the river near the city the finest fish, some to the salt and others to the fresh waters, according to their respective natures, renders good water very scarce at Guayaquil, especially in summer; none being to be had at a less distance than four or five leagues up the river, according to the height of its waters. Many balzas are therefore employed in fetching water, and selling it to the inhabitants. During the winter, this trade is partly at a stand, as, by the increase of the rivers, the water at Guayaquil is rendered fit for use.

Instead of lard, as at Carthagena and other places, they commonly use, in dressing their food at Guayaquil, beef suet. But whether the climate will not permit the beasts to acquire a proper degree of fatness, whether the suet itself be not good, or whether they are careless in separating it from the tallow; the smell and taste of both are much the same, which render their dishes extremely nauseous to strangers; and what is little better, they season all of them with Guinea pepper, which, though small, is so very strong, that the smell of it, when whole, sufficiently declares its surprising activity; so that persons, not accustomed to it, suffer either way. If they eat, their mouths seem in a flame;

if

if they forbear, they must endure hunger, till they have overcome their aversion to this seasoning; after which they think the Guinea pepper the finest ingredient in the world for giving a relish to their food.

The inhabitants of Guayaquil affect greater splendour in their formal entertainments; but the method of them is not very agreeable to an European guest. The first course consists of different kinds of sweetmeats, the second of high-seasoned ragouts; and thus they continue to serve up an alternate succession of sweet and high-seasoned dishes. The common drink on these occasions is grape brandy, there called *Aqua ardiente de Castilla*, cordials and wine: of all which they drink freely during the entertainment, heightening the pleasure by the variety; but the Europeans generally prefer wine.

The custom of drinking punch has lately increased considerably in this city; and, when drunk in moderation, is found to agree very well with the constitutions of this climate. Accordingly it has obtained greatly among persons of distinction, who generally drink a glass of it at eleven, and again in the evening; thus allaying their thirst, and at the same time correcting the water, which, besides the disagreeable taste communicated to it by heat, promotes an excessive perspiration: and this custom is so prevailing, that even the ladies punctually observe it; and the quantity both of acid and spirit being but small, it becomes equally wholesome and refreshing.

#### CHAP. VIII. — *Extent of the Jurisdiction of Guayaquil.*

THE most northern part of the jurisdiction of Guayaquil begins at Cape Passado, so called from its lying 21' south of the equinoctial, and about half a degree north of the bay of Manta. From this cape it continues all along the coast, including the isle of Puna, to the town of Machala on the coast of Tumbez, where it is terminated by the jurisdiction of Piura. From thence it runs away eastward, and is bounded by that of Cuenca; and then, turning northwards along the western skirts of the Andes, it terminates on those of Bamba and Chimbo. Its length, from north to south, is about sixty leagues, and its breadth, from east to west, forty or forty-five; reckoning from the point of Santa Elena to the parts called Ojibar. Its whole country, like that in the neighbourhood of the city, is one continued plain, and in winter universally overflowed. It is divided into seven lieutenancies or departments, for each of which the corregidor appoints a lieutenant or deputy, who, however, must be confirmed by the audience of Quito. These departments are, Puerto Viejo, Punta de Santa Elena, Puna, Yaguache, Babahoyo, Baba, and Daule.

The lieutenancy de San Gregorio de Puerto Viejo is bounded northward by the government of Atacames, and southward by the lieutenancy of Santa Elena. Its capital of the same name, though small, thinly peopled, and poor, enjoys the privileges of a city, and includes the towns of Monte Christo, Picoasa, Charapoto, and Xipijapa. These have their particular priests, who are likewise the spiritual directors of all the smaller villages in this district.

The town of Monte Christo stood at first in the bay of Manta, and was called by that name. It had then a considerable commerce by means of vessels passing from Panama to the ports of Peru; but, having been pillaged and destroyed by some foreign adventurers, who infested those seas, the inhabitants removed it to the foot of Monte Christo, where it now stands, and from whence it has its name.

Some tobacco is planted in this jurisdiction, but is not much esteemed; and the rest of its products, as wax, cotton, and pita, are barely sufficient to support its inhabitants.

bitants, though they are far from being numerous; occasioned by the general poverty which reigns through all its towns and villages. The kinds of timber natural to such hot and moist countries grow here in prodigious quantities.

Formerly along the coast, and in the bay belonging to this lieutenancy, was a considerable pearl fishery; but it has been totally discontinued for some years; occasioned partly from the dangers the divers were exposed to, from the mantas and tintoreas already described; and partly from the poverty of the inhabitants of this country, who, being in general Indians and castes, want ability to purchase Negroes for this occupation. The bay has probably its name from the great number of mantas in those parts, especially as the common employment of the inhabitants is the taking of that fish, which they salt, and carry into the inland provinces. The Europeans cannot help admiring their dexterity in this kind of fishery, which they carry on in the following manner: they throw into the water a log of wood, such as they use in making a balza, being about five or six yards in length, and near a foot in diameter, and sufficient to bear the weight assigned it, which is a net lying across one end of it, while an Indian stands in an erect position on the other; and, by help of a canalete or oar, puts off to sea, to the distance of half a league or more, where he shoots his net. Another Indian, who follows him on a similar log, takes hold of the rope fastened to one end of the net; and when the whole is extended, they both move towards the land, where their partners wait to draw the net ashore. And here one cannot help observing with astonishment the dexterity and agility of the Indians, in maintaining an equilibrium on round logs, where, by the continual agitations of the sea, they must be always changing their position, and making different motions with their body; and what still heightens the difficulty is, that he is obliged, at the same time, to mind both his oar and the net, in drawing it towards the land. They are indeed excellent swimmers; so that if they happen (which is very seldom) to slip off, they are soon on the log again, and in their former posture; at least, they are in no danger of being shipwrecked.

I shall place Punta de Santa Elena as the second lieutenancy, because it joins to the south part of the former. It extends all along the western coast from the isles of Plata and Salango, to the same Punta de Santa Elena; from thence it stretches along the north coast, formed by the bay of Guayaquil; comprehending in this extent the towns of Punta, Chongon, Morro, Colonche, and Chandui. At Chongon and Morro two priests reside, to whose parishes the others belong. The lieutenant, invested with the civil government, resides in the town of Punta, two leagues from the port, where there are indeed warehouses, or rather sheds, for receiving salt and other goods, but no dwelling-houses.

The port of Punta has so many salt-works, that it supplies the whole province of Quito and jurisdiction of Guayaquil. The salt is not the finest, but remarkably compact, and answers very well the principal intention, that of salting flesh.

On the coast belonging to this lieutenancy is found that exquisite purple, so highly esteemed among the ancients; but the fish from which it was taken, having been either unknown or forgotten, many moderns have imagined the species to be extinct. This colour, however, is found in a species of shell-fish growing on rocks washed by the sea. They are something larger than a nut, and are replete with a juice, probably the blood, which, when expressed, is the true purple; for if a thread of cotton, or any thing of a similar kind, be dipt in this liquor, it becomes of a most vivid colour, which repeated washings are so far from obliterating, that they rather improve it; nor does it fade by wearing. The jurisdiction of the port of Nicoya, in the province of Guatemala, also affords this species of turbines, the juice of which is also used in dyeing cotton threads.

and, in several parts, for ribands, laces, and other ornaments. Stuffs dyed with this purple are also highly valued. This precious juice is extracted by different methods. Some take the fish out of its shell, and, laying it on the back of their hand, press it with a knife from the head to the tail, separating that part of the body into which the compression has forced the juice, and throw away the rest. In this manner they proceed, till they have provided themselves with a sufficient quantity. Then they draw the threads through the liquor, which is the whole process. But the purple tinge does not immediately appear, the juice being at first of a milky colour; it then changes to green; and, lastly, into this celebrated purple. Others pursue a different method in extracting the colour; for they neither kill the fish, nor take it entirely out of its shell; but squeeze it so hard as to express a juice, with which they dye the thread, and afterwards replace the fish on the rock whence it was taken. Some time after it undergoes a second operation; but without yielding so much juice as at first; and at the third or fourth very little, by which means the fish is exhausted beyond recovery. In 1744, being in the lieutenancy of Santa Elena, I had the satisfaction to see this liquor extracted according to the first process, and some threads dyed with it. This purple is far from being so common as some authors have imagined; for, though the fish increases, yet so large a quantity is necessary to dye a few ounces of thread, that little of it is seen; and, indeed, its great price is partly owing to its scarcity. Another circumstance worthy of observation, and which increases or diminishes the value, is the difference of weight and colour of the cotton dyed with it, according to the different hours of the day. I could not find any satisfactory account of this property at Punta de Santa Elena, where the inhabitants, being less curious, have not carried their speculations so far as to be acquainted with this remarkable singularity; whereas at Nicoya it is so well known, that the dealers in it, both buyers and sellers, are exactly acquainted with the times of its increase or decrease, so that one of the first preliminaries to a contract is, to settle the time when it shall be weighed. From this alteration of the weight of the purple thread at Nicoya it may be inferred, that the same happens at Punta de Santa Elena; the turbines at both places being exactly of the same species, and without the least visible difference in colour. Another very remarkable particular relating to its tinct, and which I have heard from persons of undoubted veracity, is, that the colour of a thread of flax is very different from that of a thread of cotton. It would, therefore, be proper, to make repeated experiments, on threads of silk, flax, and wool.

Some, by saying that the fish, from whence this dye is extracted, breeds in a shell, by which either the flat or *acaracolada* or spiral may be understood; it may not be improper to remark that it is the last species, and, accordingly, the cotton tinged with this juice, is called *Caracolillo*. This department also abounds in fruits, cattle of all kinds, wax, and fish; so that the inhabitants have very profitable motives for industry; accordingly it is very populous, and though it does not abound in towns, the number of inhabitants far exceeds that of the preceding government, and the harbour of Punta is much frequented by vessels, that is, by such as trade between Panama and the ports of Peru, in order to purchase different kinds of provisions, as calves, kids, fowl, and other kinds, of which there is here a great plenty. Vessels belonging to the merchants of Guayaquil of two hundred tons, load here with salt; a trade which, from the cheapness of that commodity, turns to a very good account.

The next lieutenancy southward is Puna, an island in the mouth of Guayaquil river. It extends north-east and south-west between six and seven leagues, and is of a quadrilateral figure. According to an ancient tradition, its inhabitants were once between twelve and fourteen thousand: but, at present, it has only one small town, situated at

the head of its harbour in the north-east part; and the few inhabitants consist chiefly of castles, and some Spaniards, but very few Indians. To this lieutenancy has been annexed the town of Machala, on the coast of Tumbez, together with that of Naranjal, the landing-place of the river of the same name, called also the Suyá; near which is a road leading to the jurisdictions of Cuenca and Alausi. But neither of these towns is in a more flourishing condition than that on the island. In the latter reside both the lieutenant and priest, to whom the others are subject, both in civil and ecclesiastical affairs; Puna not only being the principal town, but great ships, by reason of the depth of its harbour, load there, which cannot be done at Guayaquil, on account of the sand in its river; while others come there to load with wood.

The jurisdictions of Machala and Manaranjol produce great quantities of cacao, and that of the former is esteemed the best in all Guayaquil. In its neighbourhood, as in the island of Puna, are great numbers of mangles, or mangrove trees, whose interwoven branches and thick trunks cover all those plains; which, lying low, are frequently overflowed. As this tree is little known in Europe, it must not be passed over without a short description.

The mangrove is so far different from other trees, that it requires a soil daily overflowed by the sea. Accordingly, when the water is ebbd away from the spots where the mangroves thrive, they exhale very disagreeable effluvia from their muddy surface. This tree no sooner appears above the ground, than it divides itself into very knotty and distorted branches; and from each knot germinates a multitude of others, increasing so as to form, when grown up, an impenetrable thicket. Nor is it possible to discern the shoots belonging to the principal branches; for, besides this entangled labyrinth, those of the fifth or sixth production are equal in magnitude to those of the first, which is generally of an inch and a half or two inches in diameter; and all so flexible, that the only method of severing them is by some edged tool. Though they extend themselves nearly horizontally, yet the trunk and principal branches increase both in height and thickness. Its leaves are very small, in proportion to the branches, not being above an inch and a half or two inches in length, oval, thick, and of a pale green. The usual height of the principal stems of the mangrove is eighteen or twenty yards, ten or twelve inches in diameter, and covered with a thin, rough bark. But its wood is so solid and heavy, that it sinks in water, and, when used in ships or vessels, is found very durable, being not subject either to split or rot.\*

The Indians here pay their annual tribute in the wood of the mangrove, which is used occasionally in such works as its nature is best adapted to.

The lieutenancy of Yaguache is at the mouth of the river of the same name, which falls into that of Guayaquil on the south side; and has its rise from the skirts of the Cordillera, south of the river Bamba. Its jurisdiction contains three towns; the principal, that where the custom-house is erected, is San Jacinto de Yaguache; the two others are Noufa and Antonche. To these belong two priests, one residing at Yaguache, and the other at Noufa. Though these towns are but thinly inhabited, the farms and country have great numbers, particularly of the poorer sort.

The chief production of Yaguache is wood, and a little cacao: but cattle and cotton are the principal objects of their attention.

\* The mangrove shoots out collateral branches, which bend down, take root, and put out others which do the same, so that one tree in a few years covers a large space of ground. Those stems that are within the reach of high-water mark are generally covered with a small kind of oyster, called Mangrove-oysters, which are eaten by the natives. The bark of the tree is used to tan leather, in which it succeeds very well, but gives the leather a much higher colour than oak bark. A.

Babahoyo, a name sufficiently known in all these countries, it being the seat of the grand custom-house for every thing going into the Cordillera, or coming from thence, has a very large jurisdiction, in which, besides the principal town, are those of Ujiba, Caracol, Quilea, and Mangaches; the two last border on the Cordillera, and are a considerable distance from Ujiba, where the priest resides during the winter, removing in the summer to Babahoyo, which, besides its settled inhabitants, has always a great number of traders from other parts.

The country of this jurisdiction, being level and low, on the first swellings of the rivers Caluma, Ujiba, and Caracol, is overflowed to a prodigious distance, though at different depths, particularly at Babahoyo, where the waters rise to the first story of the houses, so that during the winter it is entirely forsaken.

The country of this jurisdiction, as well as that of Baba, contiguous to it, abounds in such numbers of cacao plantations, that many are neglected, and their fruit left to the monkeys and other animals, which are thus happily provided for by the spontaneous fertility of the ground, without any assistance from agriculture. It also produces cotton, rice, Guinea pepper, and a great variety of fruits. It has likewise large droves of black cattle, horses, and mules, which, during the time the country is under water, are kept in the mountains; but, as soon as the lands are dry, are driven down to fatten on the gamalotes, a plant of such luxuriance, as to cover entirely the ground; its height exceeds two yards and a half. It also grows so thick, as to preclude all passage, even along the paths made by the traders.

The blade of the gamalote resembles that of barley, but longer, broader, thicker, and rougher. The green is deep, but lively, and the stalk diversified with knots, from which the leaves, which are strong, and something above two lines in diameter, have their origin. When the gamalote is at its full growth, the height of water during the floods, by rising above its top, presses it down, and rots it, so that, when the waters ebb away, the earth seems covered with it; but at the first impression of the sun it shoots again, and in a few days abounds in the same plenty as before. One thing remarkable in it is, that, though it proves so nourishing to the cattle of this district, it is very noxious to those from the Cordillera, as has been often experienced.

Baba is one of the largest lieutenancies of Guayaquil, reaching to the skirts of the Cordillera, or the mountains of Anga Marca, belonging to the jurisdiction of Latacunga, or, according to the Indian pronunciation, Llatacunga. Besides the principal town of the same name, it has others annexed to it, so far as to be under one priest, who, with the corregidor's lieutenant, resides continually at Baba. Formerly, the river of the same name ran close by this town; but Don En Vices having cut a canal for watering the cacao plantations on his estate, the river inclining more to this course than its former, it was found impossible to stop it; so that, leaving its original channel, it has ever since continued to run in a course some distance from the town. The other two places are San Lorenzo and Palenque, both at a great distance from the capital, and near the Cordillera, so that their Indian inhabitants are but little civilized.

The cacao tree, which, as I have already observed, abounds in this district, instead of being only four or five, according to some authors, who possibly saw it when very young, is generally not less than eighteen or twenty feet high. It begins from the ground to divide itself into four or five stems, according to the vigour of the root, from whence they all proceed. They are generally between four and seven inches in diameter; but their first growth is in an oblique direction, so that the branches are all expanded and separated from one another. The length of the leaf is between four and

six inches, and its breadth three or four. It is very smooth, soft, and terminates in a point, like that of the China orange tree, but with some difference in colour, the former being of a dull green, and has nothing of the gloss observable on the latter; nor is the tree so full of leaves as that of the orange. From the stem, as well as the branches, grow the pods which contain the cacao. The first appearance is a white blossom, not very large, whose pistil contains the embryo of the pod, which grows to the length of six or seven inches, and four or five in breadth, resembling a cucumber in shape; and striated in a longitudinal direction, but deeper than the cucumber. The pods are not precisely of the above dimensions, nor are they always proportionate to the stem or branch, to which they adhere in the form of excrescences, some being much smaller; and it is not extraordinary to see one of the least size on the principal trunk, and one prodigiously large near the extremity of a slender branch. But it is observed that, when two grow in contact, one of them attracts all the nutritive juice, and thrives on the decay of the other.

The colour of the pod while growing is green, nearly resembling that of the leaf, but when arrived at its full perfection, it gradually changes to a yellow. The shell which covers it is thin, smooth, and clear. When the fruit is arrived at its full growth, it is gathered; and being cut into slices, its pulp appears white and juicy, with small seeds regularly arranged, and at that time of no greater consistence than the rest of the pulp, but whiter, and contained by a very fine delicate membrane, full of liquor, resembling milk, but transparent, and something viscid; at this time it may be eaten like any other fruit. Its taste is a sweetish acid; but in this country is thought to be promotive of fevers. The yellowness of the pod indicates that the cacao begins to feed on its substance, to acquire a greater consistence, and that the seeds begin to fill; the colour gradually fading till they are fully completed, when the dark-brown colour of the shell, into which the yellow has deviated, indicates that it is a proper time to gather it. The thickness of the shell is now about two lines, and each seed found inclosed in one of the compartments formed by the transverse membranes of the pod. After gathering the fruit, it is opened, and the seeds taken out and laid on skins kept for that purpose, or more generally on vijahua leaves, and left in the air to dry. When fully dried, they are put into leather bags, sent to market, and sold by the carga or load, which is equal to eighty-one pounds; but the price is far from fixed, being sometimes sold for six or eight rials per carga, though less than the charge of gathering: but the general price is between three and four dollars, and, at the time of the armadas, when the demand is very large, rises in proportion.

This tree produces its fruit twice a year, and in the same plenty and goodness. The quantity gathered throughout the whole jurisdiction of Guayaquil amounts at least to 50,000 cargass.

The cacao trees delight so excessively in water, that the ground where they are planted must be reduced to a mire, and, if not carefully supplied with water, they die. They must also be planted in the shade, or at least defended from the perpendicular rays of the sun; accordingly, they are always placed near other larger trees, under the shelter of which they grow and flourish. No soil can be better adapted to the nature of these trees than that of Guayaquil, as it favours them in both respects; in the former, as consisting wholly of savannahs or wide plains, overflowed in winter, and in summer plentifully watered by canals; and, with regard to the latter, it abounds in other trees, which afford them the requisite shelter.

All the care necessary in the culture of this tree consists in clearing the ground from the weeds and shrubs abounding in so wet a soil: and this is so necessary, that, if neglected,

neglected, in a few years these vegetables will destroy the cacao plantations, by robbing the soil of all its nourishment.

The last lieutenancy to be described, is that of Daule. The principal town is of the same name, and washed by the river, to which it owes its appellation. It contains many spacious houses belonging to the inhabitants of Guayaquil. It is also the residence of a lieutenant and a parish priest, having under their inspection the two towns of Santa Lucia and Valfar. Here are a great number of plantations of tobacco and sugar-canes, cacao, and cotton; together with large orchards of fruit-trees, and extensive corn-fields.

The river Daule, which, like that of Baba, discharges itself into Guayaquil river, is very large, and on both a great trade is carried on with that city. By the former, it receives the great plenty and variety of summer fruits, and a considerable part of the plantanes, which constitute the bread used there during the whole year. Though great quantities of tobacco grow in other parts of the jurisdiction of Guayaquil, yet none equals that of Daule.

The business of grazing is followed in all these lieutenancies; but more or less, in proportion to their extent, the nature of the soil, and the conveniency of driving the cattle to the mountains, beyond the reach of the inundations.

#### CHAP. IX. — *Description of the River of Guayaquil, and of the Vessels trading on it.*

THE river of Guayaquil being the channel of the commerce of that place, it will be proper to give some account of it, in order to assist the reader in forming an idea of the trade carried on in that city.

The distance of the navigable part of this river, from the city to the custom-house at Babahoyo, the place where the goods are landed, is, by those who have long frequented it, commonly divided into reaches, of which there are twenty, its course being wholly serpentine; but to Caracol, the landing-place in winter, there are twenty-four reaches, the longest of which are the three nearest the city; and these may be about two leagues and a half in length, but the others not above one. Whence it may be inferred, on an average, that the distance, measured on the surface of the river, between Guayaquil and the custom-house of Babahoyo, is twenty-four leagues and a half, and to Caracol twenty-eight and a half. The time requisite to perform this passage is very different, according to the season, and nature of the vessel. During the winter, a chata generally takes up eight days in going from Guayaquil to Caracol, being against the current of the river; whereas two days are sufficient to perform the passage downwards. In summer a light canoe goes up in three tides, and returns in little more than two; the same may be said of other vessels, the passage downwards being always performed in much less time than the other, on account of the natural current of the river, in the reaches near the custom-house, where the strongest flood only stops the water from running downwards.

The distance from Guayaquil to Isla Verde, situated at the mouth of the river in Puna bay, is by pilots computed at about six leagues, and divided, like the other part, into reaches; and from Isla Verde to Puna three leagues: so that the whole distance from Caracol, the most inland part up the river, to that of Puna, is thirty-seven leagues and a half. Between Isla Verde and Puna it widens so prodigiously, that the horizon towards the north and south is bounded by the sky, except in some few parts northwards, where the plantations of mangroves are perceived.

The

The mouth of the river at the Isla Verde is about a league in breadth, and even something broader at Guayaquil, above which it contracts itself as it advances nearer the mountains, and forms other creeks, the mouth of one of which, called Estero de Santay, faces the city; another, termed Lagartos, is near the custom-house at Babahoyo. These are the largest, and at the same time extend to such a distance from the principal river, as to form very considerable islands.

The tides, as we have before observed, in summer-time reach up to the custom-house, checking the velocity of the waters, and consequently causing them to swell; but, in winter, the current being stronger and more rapid, this increase of the water is visible only in the reaches near Guayaquil; and in three or four different times of the year, the great velocity of the current renders the tides imperceptible: the first of this season happens about Christmas.

The principal cause of the swellings of this river arises from the torrents rushing down from the Cordillera into it. For though rain is frequent here, great part of the water is received by its lakes, or stagnates on the plains: so that the increase of the river is entirely owing to the torrents from the mountains.

One particular inconvenience of these floods is, their shifting the banks of sand lying between the city and Isla Verde; so that no ships of any considerable burden can go up with safety, without continually sounding with the lead, unless care has been taken to mark the banks since their last change.

The borders of this river, like those of Yaguache, Baba, and Daule, as well as those of the creeks and canals, are decorated with country-seats, and cottages of poor people of all casts, having here both the convenience of fishing and agriculture; and the intermediate spaces filled with such a variety of thickets, that art would find it difficult to imitate the delightful landscape here exhibited by nature.

The principal and most uncommon materials used in buildings on these rivers, are canes, whose dimensions and other particulars shall be taken notice of in their place. These also form the inward parts, as walls, floors, and rails of the stairs; the larger houses differ only in some of the principal pieces, which are of wood. Their method of building is, to fix in earth, eight, ten, or twelve pieces of wood, more or less, according to the dimensions of the house, forked at the top, and of a proper length, all the apartments being on the first story, without any ground floor. Beams are then laid across on these forks, at the distance of four or five yards from the ground. On these beams canes are laid in such a manner as to form a kind of rafters, and over these boards of the same canes a foot and a half in breadth, which form as firm and handsome a flooring as if of wood. The partitions of the several apartments are of the same materials, but the outer walls are generally latticed, for the free admission of the air. The principal beams of the roof of large houses are of timber, the rafters of cane, with smaller, in a transverse direction, and over these vijahua leaves.\* Thus a house is built at very little expense, though containing all the necessary conveniences. With regard to the poorer sort, every one's own labour suffices to procure him a habitation. He goes up a creek in a small canoe, and from the first wood cuts down as many canes, vijahuas, and bejucos,† as he wants, and, bringing the whole to the shore, he makes a balza or float, on which he loads his other materials, and falls down the river to the place where he intends to erect his cottage. After which, he begins his work, fastening with bejucos those parts which are usually nailed; and,

\* This leaf is three or four feet long, and about one broad. A.

† A long pliant twig, used as a cord by the natives; described Book V. Ch. I. A.

in a few days, finishes it in the completest manner. Some of these cottages are almost equal in dimensions to those of timber.

The lower part, both of these houses, as well as those in the greater part of the jurisdiction of Guayaquil (which are of the same form), are exposed to all winds, being entirely open, without having any wall, or fence, except the posts or stanchions by which the building is supported. For whatever cost was expended on the ground floor, it would be wholly useless in the winter, when all the country is turned to mud. Such houses, however, as stand beyond the reach of inundations, have ground floors, walled and finished like the other apartments, and serve as warehouses for goods; but those within the inundations are built, as it were, in the air, the water having a free passage under them. All the inhabitants have their canoes for passing from one house to another, and are so dexterous in the management of these skiffs, that a little girl ventures alone in a boat so small and slight, that any one less skilful would overset in stepping into it, and without fear crosses rapid currents, which an expert sailor, not accustomed to them, would find very difficult.

The continual rains in winter, and the slightness of the materials with which these houses are built, render it necessary to repair them during the summer; but those of the poorer sort, which are low, must be every year rebuilt, especially those parts which consist of cane, bejucó, and vijahua, while the principal stanchions, which form the foundation, still continue serviceable, and able to receive the new materials.

From the houses I proceed to give an account of the vessels, which (omitting the chatas and canoes as common) are called Balzas, i. e. rafts. The name sufficiently explains their construction, but not the method of managing them, which these Indians, strangers to the arts and sciences, have learned from necessity.

These Balzas, called by the Indians Jungadas,\* are composed of five, seven, or nine beams of a sort of wood, which, though known here only by the name of Balza, the Indians of Darien called Puero; and, in all appearance, is the ferula of the Latins, mentioned by Columella; Pliny takes notice of two species of it, the lesser by the Greeks called Nartechia, and the larger Narthea, which grows to a great height. Nebrija calls it in Spanish Canna Beja or Canna Heja. Don George Juan, who saw it growing in Malta, found no other difference betwixt it and the Balza or Puero, only the Canna Beja, called ferula by the Maltese, is much smaller. The Balza is a whitish soft wood, and so very light, that a boy can easily carry a log of three or four yards in length and a foot in diameter. Yet, of this wood are formed the Janjades or Balzas, already mentioned. Over part of it is a strong tilt formed of reeds. Instead of a mast, the sail is hoisted on two poles or sheers of mangrove wood, and those which carry a foresail have two other poles erected in the same manner.

Balzas are not only used on rivers, but small voyages are made at sea in them, and sometimes they go as far as Paita. Their dimensions being different, they are also applied to different uses; some of them being fishing Balzas; some carry all kinds of goods from the custom-house to Guayaquil, and from thence to Puna, the Salto de Tumbez, and Paita; and others, of a more curious and elegant construction, serve for removing families to their estates and country-houses, having the same convenience as on shore, not being the least agitated on the river; and that they have sufficient room for accommodations, may be inferred from the length of the beams, which are twelve or thirteen toises and about two feet or more in diameter: so that the nine

\* They are the same that are called Catamorans in the East Indies. A.

beams of which they consist, form a breadth of between twenty and twenty-four Paris feet; and proportional in those of seven, or any other number of beams.

These beams are fastened or lashed together by bejucos, and so securely, that with the cross-pieces at each end, which are also lashed with all possible strength, they resist the rapidity of the currents in their voyages to the coast of Tumbez and Paíta. The Indians are so skilful in securing them, that they never loosen, notwithstanding the continual agitation; though by their neglect in examining the condition of the bejucos, whether they are not rotten or worn, so as to require others, there are some melancholy instances of Balzas, which, in bad weather, have separated, and, by that means, the cargo lost, and the passengers drowned. With regard to the Indians, they never fail of getting on one of the beams, which is sufficient for them to make their way to the next port. One or two unfortunate accidents of this kind happened even while we were in the jurisdiction of Quito, purely from the savage carelessness of the Indians.

The thickest beam of those which compose the Balza, is placed so as to project beyond the other in its after-part; and to this are lashed the first beams on each side, and thus, successively, till the whole are secured; that in the middle being the principal piece, and thence the number of beams is always odd. The larger sort of Balzas generally carry between four and five hundred quintals, without being damaged by the proximity of the water; for the waves of the sea never run over the Balza; neither does the water splash up between the beams, the Balza always following the motion of the water.

Hitherto we have only mentioned the construction and the uses they are applied to; but the greatest singularity of this floating vehicle is, that it sails, tacks, and works as well in contrary winds, as ships with a keel, and makes very little lee-way. This advantage it derives from another method of steering than by a rudder; namely, by some boards, three or four yards in length, and half a yard in breadth, called Guaras, which are placed vertically, both in the head and stern between the main beams, and by thrusting some of these deep in the water, and raising others, they bear away, luff up, tack, lie to, and perform all the other motions of a regular ship: an invention hitherto unknown to the most intelligent nations of Europe, and of which even the Indians know only the mechanism, their uncultivated minds having never examined into the rationale of it. Had this method of steering been sooner known in Europe, it would have alleviated the distress of many a shipwreck, by saving numbers of lives; as in 1730, the *Genovesa*, one of His Majesty's frigates, being lost on the *Vibora*, the ship's company made a raft; but committing themselves to the waves, without any means of directing their course, they only added some melancholy minutes to the term of their existence. Such affecting instances induced me to explain the reason and foundation of this method of steering, in order to render it of use in such calamitous junctures; and, that I may perform it with the greater accuracy, I shall make use of a short memoir, drawn up by Don George Juan.

The direction, says he, in which a ship moves before the wind, is perpendicular to the sail, as Mess. Renau, in the *Theorie de Manœuvres*, chap. ii. art. 1. *Bernoulli*, cap. i. art. 4. *Pitot*, sect. ii. art. 13. have demonstrated. And re-action being contrary and equal to the action, the force with which the water opposes the motion of the vessel, will be applied in a perpendicular direction to the sail, and continued from leeward to windward, impelling with more force a greater body than a smaller, in proportion to the superficies, and the squares of the sines of the angle of incidence, supposing their velocities equal. Whence it follows, that a Guara being shoved down in the

the fore-part of the vessel, must make her luff up; and by taking it out, she will bear away or fall off. Likewise on a guara's being shoved down at the stern, she will bear away; and by taking it out of the water, the balza will luff, or keep nearer to the wind. Such is the method used by the Indians in steering the balzas; and sometimes they use five or six guaras, to prevent the balza from making lee-way; it being evident, that the more they are under water, the greater resistance the side of the vessel meets with; the guaras performing the office of lee-boards, used in small vessels. The method of steering by these guaras is so easy and simple, that when once the balza is put in her proper course, one only is made use of, raising or lowering it as accidents require; and thus the balza is always kept in her intended direction.

We have before observed, that this river and its creeks abound in fish, which for some time in the year afford employment for the Indians and Mulattos inhabiting its banks, and for which they prepare towards the end of summer, having then sown and reaped the produce of their little farms. All their preparatives consist in examining their balzas, giving them the necessary repairs, and putting up a fresh tilt of vijahua leaves. This being finished, they take on board the necessary quantity of salt, harpoons, and darts. With regard to their provision, it consists only of maize, plantanes, and hung-beef. Every thing being ready, they put on board the balzas, their canoes, their families, and the little furniture they are masters of. With regard to the cattle and horses, of which every one has a few, they are driven up to winter in the mountains.

The Indians now steer away to the mouth of some creek, where they expect to take a large quantity of fish, and stay there during the whole time of the fishery, unless they are disappointed in their expectations; in which case they steer away to another, till they have taken a sufficient quantity, when they return to their former habitations; but not without taking with them vijahua leaves, bejucos, and canes, for making the necessary repairs. When the communication is opened with the provinces of the Cordilleras, and the cattle begin to return into the plains, they carry their fish to the custom-house of Babahoyo, where they sell it; and with the produce, purchase baize, tucuyo, and other stuffs, for clothing themselves and families.

Their method of fishing is thus: Having moored their balza near the mouth of a creek, they take their canoes, with some harpoons and spears, and on sight of a fish make towards it, till they arrive at a proper distance, when they throw their spear at it with such dexterity, that they seldom miss; and if the place abounds in fish, they load their canoes in three or four hours, when they return to their balzas to salt and cure them. Sometimes, especially in places where the creeks form a kind of lake, they make use of a certain herb called Barbasco, which they chew, mix with some bait, and scatter about on the water. The juice of this herb is so strong, that the fish on eating a very little of it become inebriated, so as to float on the surface of the water, when the Indians have no other trouble than to take them up. This juice is actually fatal to the smaller fish, and the larger do not recover for some time; and even these, if they have eaten a considerable quantity, perish. It is natural to think, that fish caught in this manner must be prejudicial to health: but experience proves the contrary, and accordingly the most timorous make no difficulty of eating them. Their next method of fishing is with nets; when they form themselves into companies, for the better management of them.

The largest sort of fish caught here is called Bagre, some of which are a yard and a half long; but flabby, and of an ill taste, so that they are never eaten fresh. The Robalo, a sort of large trout, is the most palatable; but being only taken in the

creeks a great way above Guayaquil, the distance will not admit their being brought to that city.

The increase of fish in this river is greatly hindered by the prodigious numbers of alligators, an amphibious creature living both in the rivers, and the adjacent plains, though it is not often known to go far from the banks of the river. When tired with fishing, they leave the water to bask themselves in the sun, and then appear more like logs of half rotten wood thrown ashore by the current, than living creatures; but upon perceiving any vessel near them, they immediately throw themselves into the water. Some are of so monstrous a size as to exceed five yards in length. During the time they lie basking on the shore, they keep their huge mouths wide open, till filled with moschitos, flies, and other insects, when they suddenly shut their jaws and swallow their prey. Whatever may have been written with regard to the fierceness and rapacity of this animal, I and all our company know, from experience, they avoid a man, and on the approach of any one, immediately plunge into the water. Their whole body is covered with scales impenetrable to a musket-ball, unless it happens to hit them in the belly near the fore legs; the only part vulnerable.

The alligator is an oviparous creature. The female makes a large hole in the sand near the brink of a river, and there deposits her eggs; which are as white as those of a hen, but much more solid. She generally lays about a hundred, continuing in the same place till they are all deposited, which is about a day or two. She then covers them with the sand; and the better to conceal them, rolls herself, not only over her precious depositum, but to a considerable distance. After this precaution, she returns to the water till natural instinct informs her that it is time to deliver her young from their confinement; when she comes to the spot, followed by the male, and tearing up the sand, begins breaking the eggs, but so carefully, that scarce a single one is injured; and a whole swarm of little alligators are seen crawling about. The female then takes them on her neck and back, in order to remove them into the water; but the watchful gallinazos make use of this opportunity to deprive her of some; and even the male alligator, which indeed comes for no other end, devours what he can, till the female has reached the water with the few remaining; for all those which either fall from her back, or do not swim, she herself eats; so that of such a formidable brood, happily not more than four or five escape.

The gallinazos, mentioned in our account of Carthagena, are the most inveterate enemies of the alligators, or rather extremely fond of their eggs, in finding which they make use of uncommon address. These birds often make it their whole business to watch the females during the summer, the season when they lay their eggs, the sands on the sides of the river not being then covered with water. The gallinazo perches on some tree, where it conceals itself among the branches, and there silently watches the female alligator, till she has laid her eggs and retires, pleased that she has concealed them beyond discovery. But she is no sooner under the water, than the gallinazo darts down on the repository, and with its beak, claws, and wings, tears up the sand, and devours the eggs, leaving only the shells. This banquet would indeed richly reward its long patience, did not a multitude of gallinazos from all parts, join the fortunate discoverer and share in the spoil. I have often been entertained with this stratagem of the gallinazos, in passing from Guayaquil to the custom-house of Babahoyo; and my curiosity once led me to take some of the eggs, which those who frequent this river, particularly the Mulattos, make no difficulty of eating, when fresh. Here we must remark the methods used by Providence in diminishing the number of these destructive creatures, not only by the gallinazos, but even by the males themselves.

selves. Indeed, neither the river nor the neighbouring fields would otherwise be sufficient to contain them; for, notwithstanding the ravages of these two insatiable enemies, their numbers can hardly be imagined.

These alligators are the great destroyers of the fish in this river, it being their most safe and general food; nor are they wanting in address to satisfy their desires; eight or ten, as it were by compact, draw up at the mouth of a river or creek, whilst others go a considerable distance up the river, and chase the fish downwards, by which none of any bigness escape them. The alligators being unable to eat under water, on seizing a fish, raise their heads above the surface, and by degrees draw the fish from their jaws, and chew it for deglutition. After satisfying their appetite, they retire to rest on the banks of the river.

When they cannot find fish to appease their hunger, they betake themselves to the meadows bordering on the banks, and devour calves and colts; and, in order to be more secure, take the opportunity of the night, that they may surprise them in their sleep; and it is observed, that those alligators which have once tasted flesh, become so fond of it, as never to take up with fish but in cases of necessity. There are even too many melancholy instances of their devouring the human species, especially children, who from the inattention natural to their age, have been without doors after it is dark; and though at no great distance, these voracious animals have dared to attack them, and having once seized them, to make sure of their prey against that assistance which the cries of the victim never fail to bring, hasten into the water, where they immediately drown it, and then return to the surface, and devour it at leisure.

Their voracity has also been felt by the boatmen, whom, by inconsiderately sleeping with one of their arms or legs hanging over the side of the boat, these animals have seized, and drawn the whole body into the water. Alligators who have once feasted on human flesh, are known to be the most dangerous, and become, as it were, inflamed with an insatiable desire of repeating the same delicious repast. The inhabitants of those places where they abound, are very industrious in catching and destroying them. Their usual method is by a casonate, or piece of hard wood sharpened at both ends, and baited with the lungs of some animal. This casonate they fasten to a thong, the end of which is secured on the shore. The alligator on seeing the lungs floating on the water, snaps at the bait, and thus both points of the wood enter his jaws, in such a manner that he can neither shut nor open his mouth. He is then dragged ashore, where he violently endeavours to rescue himself, while the Indians bait him like a bull, knowing that the greatest damage he can do, is to throw down such as for want of care or agility, do not keep out of his reach.

The form of this animal so nearly resembles that of the lagarto or lizard, that here they are commonly called by that name; but there is some difference in the shape of the head, which in this creature is long, and towards the extremity slender, gradually forming a snout like that of a hog, and when in the river, is generally above the surface of the water; a sufficient demonstration, that the respiration of a grosser air is necessary to it. The mandibles of this creature have each a row of very strong and pointed teeth, to which some writers have attributed particular virtues; but all I can say to this is, that they are such as I and my companions, notwithstanding all our enquiries to attain a complete knowledge of every particular, could never hear any satisfactory account of.

**CHAP. X. —** *Of the Commerce carried on by means of the City and River of Guayaquil, betwixt the Provinces of Peru and Terra Firma, and the Coast of New Spain.*

THE commerce of Guayaquil may be divided into two parts: one reciprocal, being that of the products and manufactures of its jurisdiction; the other transitory, its port being the place where the goods from the provinces of Peru, Terra Firma, and Guatemala, consigned to the mountains, are landed; and on the other hand, those from the mountains, designed for the abovementioned provinces, are brought hither and shipped for their respective ports. And as these two branches are very different, I shall first treat particularly of its reciprocal commerce.

The cacao, one of its principal products, is chiefly exported to Panama, the ports of Sonsonate, el Realejo, and other ports of New Spain; and also to those of Peru, though the quantity sent to the latter is but small. It is something singular, that in this city and jurisdiction, where cacao grows in such plenty, little or no use should be made of it.

Timber, which may be esteemed the second article of its commerce, is chiefly sent to Callao, though a little is sold to the places between Guayaquil and that port. All the expense of it here is the charge of felling, carrying it to the next creek or river, and floating it down to Guayaquil; where, or at Puna, it is shipped for the ports it is consigned to.

Though both these branches of trade are very advantageous to Guayaquil, as may be easily imagined, from the prodigious quantities exported; yet the trade of salt is not inferior to either, though the principal markets to which this is sent, are only the inland towns in the province of Quito. To these may be added cotton, rice, and fish, both salted and dried; the two first of which deserve to be mentioned, as they are exported both to the maritime and inland provinces.

The fourth and last article of the commerce of this jurisdiction, is the trade in horned cattle, mules, and colts, of which great numbers are bred in the extensive savannahs of this province. These turn to good account in the provinces of the mountains, where there is not a sufficiency to answer the necessary demands.

Besides these four capital articles, there are others, though singly of little consequence, yet jointly are equal to any one of the former, as tobacco, wax, Guinea pepper, drugs, and lana de ceibo, by which great numbers of the lower class of people acquire a comfortable subsistence.

The lana de ceibo, or ceibo wool, is the product of a very high and tufted tree of that name. The trunk is straight, and covered with a smooth bark; the leaf round and of a middling size. At the proper season the tree makes a very beautiful appearance, being covered with white blossoms: and in each of these is formed a pod, which encreases to about an inch and a half or two inches in length, and one in thickness. In this pod the lana or wool is contained. When thoroughly ripe and dry, the pod opens, and the filamentous matter or wool gradually spreads itself into a tuft resembling cotton, but of a reddish cast. This wool is much more soft and delicate to the touch than cotton itself, and the filaments so very tender and fine, that the natives here think it cannot be spun; but I am persuaded that this is entirely owing to their ignorance: and if a method be ever discovered of spinning it, its fineness will entitle it rather to be called ceibo silk than wool. The only use they have hitherto applied it to, is to fill matresses; and in this particular, it must be allowed to have no equal, both with regard

regard to its natural softness, and its rising so, when laid in the sun, as even to stretch the covering of the mattrass; nor does it sink on being brought into the shade, unless accompanied with dampness, which immediately compresses it. This wool is here thought to be of an extreme cold quality, which is abundantly sufficient to hinder it from being generally used, though great numbers of persons of rank, and tenderly brought up, have never slept on any thing else, but without any injury to their health.

The goods imported into this jurisdiction from Peru, in return for the above-mentioned commodities, are wine, brandy, oil, and dried fruits. From Quito it receives bays, tucuyos, flour, papas, bacon, hams, cheese, and other goods of that kind. From Panama, European goods purchased at the fairs. The chief commodities it receives from New Spain are iron, found in that country, but much inferior to that of Europe, being brittle and vitreous. It, however, serves for such uses where malleability is of no great importance, but is rarely used in building ships; also, naphtha, and tar for the use of shipping. From the same coast, as well as from Peru, they have also cordage; though the last article, together with European iron, the owners of ships import on their own account; and therefore make no part of the commerce.

The transitory commerce is in quantity much more considerable than that of the preceding, as it consists of the reciprocal exchange between the large kingdoms of Quito and Lima, of their respective commodities both natural and factitious. Lima sends the products of its vineyards and olive yards; and Quito furnishes cloth, bays, tucuyos, serges, hats, stockings, and other woollen goods; but indigo being necessary for increasing the beauty of the colours, and none of it growing in the province of Quito, the merchants of Guayaquil import it from New Spain, and send it to the Quito manufacturers.

Summer is the proper season for carrying on these branches of commerce; because then the manufactures of the mountains can be brought down to Guayaquil, and the goods sent from other parts carried up to the mountainous parts. But the river of Guayaquil is never without vessels loading with goods of that jurisdiction, the sea here being always open. The profits resulting from this large and constant commerce could alone have preserved it from a total desertion, after being so frequently pillaged by pirates, and wasted by fire. And it is owing to the advantages resulting from this commerce, that we now behold it large, flourishing, and magnificent, as if it had enjoyed an uninterrupted prosperity from its very foundation.

## BOOK V.

### JOURNEY FROM GUAYAQUIL TO THE CITY OF QUITO.

#### CHAP. I. — *Passage from Guayaquil to the Town of Caracol, and from thence to Quito.*

ON receiving advice that the mules, provided by the corregidor of Guaranda, were on the road to Caracol, we immediately embarked at Guayaquil, on the 3d of May 1736, on board a large chata: but the usual impediment of the current, and several unfortunate accidents, rendered the passage so very long, that we did not land

at Caracol before the 11th. The tortures we received on the river from the moschitos were beyond imagination. We had provided ourselves with guetres, and moschito cloths; but to very little purpose. The whole day we were in continual motion to keep them off; but at night our torments were excessive. Our gloves were indeed some defence to our hands, but our faces were entirely exposed, nor were our clothes a sufficient defence for the rest of our bodies; for their stings, penetrating through the cloth, caused a very painful and fiery itching. The most dismal night we spent in this passage was when we came to an anchor near a large and handsome house, but uninhabited; for we had no sooner seated ourselves in it, than we were attacked on all sides with innumerable swarms of moschitos; so that we were so far from having any rest there, that it was impossible for a person, susceptible of feeling, to be one moment quiet. Those who had covered themselves with their moschito cloths, after taking the greatest care that none of these malignant insects were contained in them, found themselves in a moment so attacked on all sides, that they were obliged soon to return to the place they had quitted. Those who were in the house, hoping that they should find some relief in the open fields, ventured out, though in danger of suffering in a more terrible manner from the serpents; but were soon convinced of their mistake; it being impossible to determine which was the most supportable place, within the moschito cloth, without it, or in the open fields. In short, no expedient was of any use against their numbers. The smoke of the trees we burnt, to disperse these infernal insects, besides almost choking us, seemed rather to augment than diminish their multitudes. At day-break, we could not without concern look upon each other. Our faces were swelled, and our hands covered with painful tumours, which sufficiently indicated the condition of the other parts of our bodies exposed to the attacks of those insects. The following night we took up our quarters in a house inhabited, but not free from moschitos; though in much less numbers than before. On informing our host of the deplorable manner in which we had spent the preceding night, he gravely told us, that the house we so greatly complained of had been forsaken on account of its being the purgatory of a soul. To which, one of our company wittily answered, that it was much more natural to think that it was forsaken on account of its being a purgatory for the body.

The mules being arrived at Caracol, we set out on the 14th of May, and, after travelling four leagues, through savannahs, woods of plantain, and cacao-trees, we arrived at the river Ojibar; and continued our journey, during the whole day, along its banks, fording it no less than nine times, though with no small danger, from its rapidity, breadth, depth, and rocky bottom; and, about three or four in the afternoon, we halted at a place called Puerto de Muschitos.

All the road from Caracol to the Ojibar is so deep and boggy that the beasts at every step sunk almost up to their bellies; but along the banks of that river we found it much more firm and commodious. The name of the place where we were to take up our lodging that night sufficiently indicates its nature. The house had been for some time forsaken, like that already mentioned on Guayaquil river, and become a nest of moschitos of all kinds; so that it was impossible to determine which was the worst. Some, to avoid the tortures of these insects, stripped themselves, and went into the river, keeping only their heads above water; but the face being the only part exposed, was immediately covered with them; so that those who had recourse to this expedient, were soon forced to deliver up their whole bodies to these tormenting creatures.

On the 15th we continued our journey through a very thick forest, the end of which brought us once more to the banks of the same river, which we again forded four times, and

and rather with more danger than at first. About five, we halted on its banks, at a place called Caluma, or the Indian post. Here was no house for lodging in, nor had we seen one during the whole day's journey; but this inconvenience was in some measure removed by the surprising dexterity of our Indians, who, running into the woods, soon returned with branches of trees and vijahua leaves, with which, in less than an hour, they erected several huts large enough to contain our whole company; and so well covered, that the rain, which came on very violently, did not penetrate them.\*

The thermometer at Caluma, on the 16th, at six in the morning, was at one thousand and sixteen; and we were ourselves sensible that the air began to grow cool. At half an hour after eight in the morning we began our journey, and at noon passed by a place called Mamarumi, or mother of stone, where there is an inconceivably beautiful cascade. The rock from which the water precipitates itself is nearly perpendicular, and fifty toises in height, and on both sides bordered with lofty and spreading trees. The clearness of the water dazzles the sight, which is, however, charmed with its lustre as it falls from the precipice; after which it continues its course in a bed along a small descent, and is crossed by the road. These cataracts are by the Indians called Paccha, and by the Spaniards of the country Chorrera. From hence we continued our journey; and after crossing the river twice on bridges, but with equal danger as in fording it, we arrived at two in the evening at a place called Tarigagua, where we rested in a large structure of timber, covered with vijahua leaves, built for our reception. Indeed we were no less fatigued with this day's journey than with any of the preceding; some parts of it being over dreadful precipices, and the road in others so narrow, as hardly to afford a passage for the mules, that it was impossible to avoid frequently striking against the trees and rocks; few of us therefore reached Tarigagua without several bruises.

It must not be thought strange that I should say the bridges are equally dangerous with the fords; for these structures, all of wood, and very long, shake in passing them; besides, their breadth is not above three feet, and without any rail; so that one false step precipitates the mule into the torrent, where it is inevitably lost; accidents, according to the report of our guides not uncommon. These bridges, by the rotting of the wood under water, are annually repaired towards winter, the only season when they are used; the rivers during the summer being fordable.

When a person of distinction, as a president, a bishop, &c. is on a journey from Caracol or Babahoyo, the corregidor of Guaranda dispatches Indians for building cottages at the usual resting places, like that we found at Tarigagua; and these being left standing, serve afterwards for other passengers, till the rains destroy them. When these are thrown down, travellers must content themselves with the huts which their Indian guides build with wonderful dispatch.

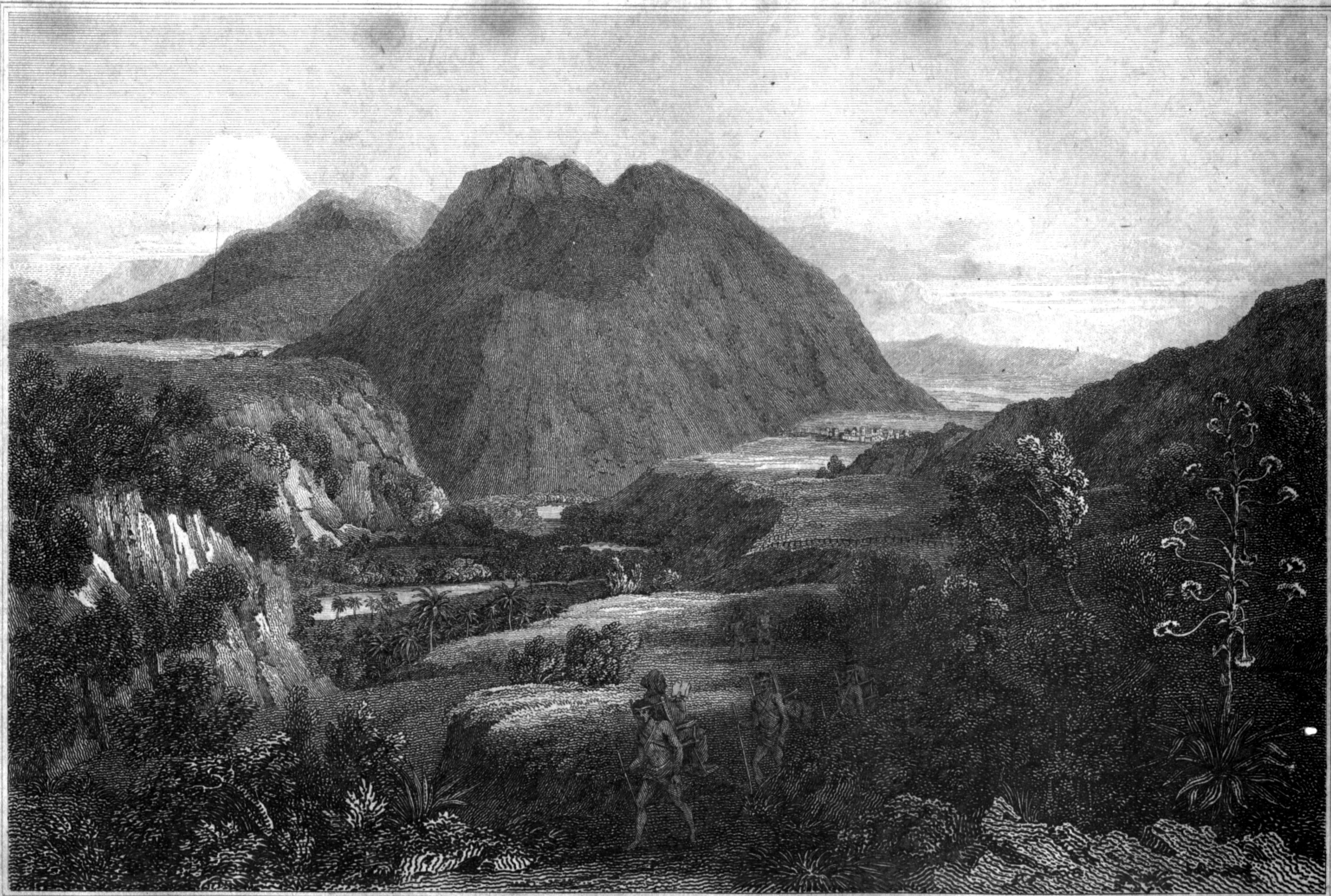
At Tarigagua, on the 17th, at six in the morning, the thermometer stood at 1014½. And having been for some time accustomed to hot climates, we now sensibly felt the cold. It is remarkable, that we here often see instances of the effects of two opposite temperatures, in two persons happening to meet, one of them coming from Guayaquil, and the other from the mountains: the latter finding the heat so great that he is scarce able to bear any clothes, while the former wraps himself up in all the garments he can procure. The one is so delighted with the warmth of the water of the river, that he bathes in it; the other thinks it so cold, that he avoids being spattered by it. Nor is the

\* The natives when they travel, erect new huts every night in this manner, except they have the convenience of tying their hammock up in trees, by which means they save the trouble of a watch and fire all night to keep off the wild beasts.

case very different even in the same person, who, after a journey to the mountains, is returning to Guayaquil, or *vice versa*, provided the journey and return be made at the same season of the year. This sensible difference proceeds only from the change naturally felt at leaving a climate to which one has been accustomed, and coming into another of an opposite temperature; and thus two persons, one used to a cold climate, like that of the mountains, the other to a hot, like that of Guayaquil, must, at coming into an intermediate temperature, as at Tarigagua, feel an equal difference; one with regard to heat, and the other with regard to cold; which demonstrates that famous opinion—that the senses are subject to as many apparent alterations, as the sensations are various in those who feel them. For the impressions of objects are different, according to the different disposition of the senses; and the organs of two persons differently disposed are differently affected. At a quarter past nine in the morning we began to ascend the mountain of San Antonio, the foot of which is at Tarigagua; and, at one, came to a place called by the Indians Guamac, or Cross of Canes. Here is a small but inclining plain; and being told that it was half way up the acclivity, and our beasts requiring rest, we halted here.

The ruggedness of the road from Tarigagua leading up this mountain is not easily described. It gave us more trouble and fatigue, besides the dangers we were every moment exposed to, than all we had experienced in our former journeys. In some parts the declivity is so great that the mules can scarce keep their footing, and in others the acclivity is equally difficult. In many places the road is so narrow that the mules have scarce room to set their feet; and in others a continued series of precipices. Besides, these roads, or rather paths, are full of holes, or camelones, near three quarters of a yard deep, in which the mules put their fore and hind feet; so that sometimes they draw their bellies and riders' legs along the ground. Indeed these holes serve as steps, without which the precipices would be in a great measure impracticable. But should the creature happen to put his foot between two of these holes, or not place it right, the rider falls, and, if on the side of the precipice, inevitably perishes. It may perhaps be said, that it would be much safer to perform this part of the journey on foot; but how can any person be sure always of placing his feet directly on the eminences between the holes; and the least false step throws him up to the waist in a slimy mud, with which all the holes are full; and then he will find it very difficult either to proceed or return back.

These holes, or camelones, as they are called, render all this road very toilsome and dangerous, being as it were so many obstacles to the poor mules; though the danger is even greater in those parts where they are wanting. For as the tracks are extremely steep and slippery, from the soil, which is chalky and continually wet; so they would be quite impracticable, did not the Indians go before, and dig little trenches across the road, with small spades which they carry with them for this purpose; and thus both the difficulty and danger of these craggy paths are greatly lessened. This work is continual, every drove requiring a repetition of it; for in less than a night the rain utterly destroys all the trenches cut by several hands the preceding day. The trouble of having people going before to mend the road; the pains arising from the many falls and bruises; and the disagreeableness of seeing one's self entirely covered with dirt, and wet to the skin, might be the more cheerfully supported, were they not augmented by the sight of such frightful precipices, and deep abysses, as must fill the traveller's mind with terror. For, without the least exaggeration, it may be said, that in travelling this road, the most resolute tremble.



*Drawn by A. de Humboldt.*

*Engraved by George Cooke.*

*Passage of Quindiu in the Andes.*

*London. Published by Longman, Hurst, Rees, Orme & Brown, Paternoster Row. Nov. 1. 1812.*

The manner of descending from these heights is not less difficult and dangerous. In order to understand this, it is necessary to observe, that in those parts of the mountains, the excessive steepness will not admit of the camelones being lasting; for the waters, by continually softening the earth, wash them away. On one side are steep eminences, and on the other frightful abysses; and as they generally follow the direction of the mountain, the road, instead of lying in a level, forms two or three steep eminences and declivities, in the distance of two or three hundred yards: and these are the parts where no camelones can be lasting. The mules themselves are sensible of the caution requisite in these descents; for, coming to the top of an eminence, they stop, and having placed their fore feet close together, as in a posture of stopping themselves, they also put their hinder feet together, but a little forwards, as if going to lie down. In this attitude, having as it were taken a survey of the road, they slide down with the swiftness of a meteor. All the rider has to do is to keep himself fast in the saddle without checking his beast; for the least motion is sufficient to disorder the equilibrium of the mule, in which case they both unavoidably perish. The address of these creatures is here truly wonderful; for, in this rapid motion, when they seem to have lost all government of themselves, they follow exactly the different windings of the road, as if they had before accurately reconnoitred, and previously settled in their minds, the route they were to follow, and taken every precaution for their safety, amidst so many irregularities. There would indeed otherwise be no possibility of travelling over such places, where the safety of the rider depends on the experience and address of his beast.

But the longest practice of travelling these roads cannot entirely free them from a kind of dread or horror which appears when they arrive at the top of a steep declivity. For they stop without being checked by the rider; and if he inadvertently endeavours to spur them on, they continue immovable; nor will they stir from the place till they have put themselves in the above-mentioned posture. Now it is that they seem to be actuated by reason; for they not only attentively view the road, but tremble and snort at the danger, which, if the rider be not accustomed to these emotions, cannot fail of filling him with terrible ideas. The Indians go before, and place themselves along the sides of the mountain, holding by the roots of trees, to animate the beasts with shouts, till they at once start down the declivity.

There are indeed some places where these declivities are not on the sides of precipices; but the road is so narrow and hollow, and the sides nearly perpendicular, that the danger is almost equal to the former; for the track being extremely narrow, and the road scarce wide enough to admit the mule with its rider, if the former falls, the latter must be necessarily crushed; and for want of room to disengage himself, generally has a leg or an arm broken, if he escapes with life. It is really wonderful to consider these mules, after having overcome the first emotions of their fear, and are going to slide down the declivity, with what exactness they stretch out their fore-legs, that by preserving the equilibrium they may not fall on one side; yet at a proper distance make, with their body, that gentle inclination necessary to follow the several windings of the road; and, lastly, their address in stopping themselves at the end of their impetuous career. Certainly the human species themselves could not show more prudence and conduct. Some mules, after being long used to these journeys, acquire a kind of reputation for their skill and safety, and accordingly are highly valued.

The worst seasons for these journeys, though difficult and dangerous at all times, are the beginnings of summer and winter; the rain then causing such dreadful torrents, that in some places the roads are covered with water; and in others so damaged, that there is no possibility of passing, but by sending Indians before to mend them; though

after all their labour, which must be done in haste, and when those people think them both safe and easy, they are such as an European stranger would willingly avoid.

Besides, the natural difficulty of all the roads among the mountains is increased by the neglect of them, which is greater than could easily be conceived. If a tree, for instance, happens to fall down across the road, and stop up the passage, no person will be at the pains to remove it; and though all passing that way are put to no small difficulty by such an obstacle, it is suffered to continue; neither the government, nor those who frequent the road, taking any care to have it drawn away. Some of these trees are indeed so large, that their diameter is not less than a yard and a half, and, consequently, fill up the whole passage; in which case, the Indians hew away part of the trunk, and assist the mules to leap over what remains; but, in order to this, they must be unloaded; and, after prodigious labour, they at last surmount the difficulty; though not without great loss of time, and damage to the goods: when, pleased with having got over the obstacle themselves, they leave the tree in the condition they found it; so that those who follow are obliged to undergo the same fatigue and trouble. Thus the road, to the great detriment of trade, remains encumbered till time has destroyed the tree. Nor is it only the roads over San Antonio, and other mountains between Guayaquil and the Cordillera, that are thus neglected; the case is general all over this country, especially where they lead over mountains, and through the forests.

On the 18th, at six in the morning, the thermometer at Cruz de Canos was at 1010, and after travelling along a road no better than the day before, we arrived at a place, at the end of the acclivity of the mountain, by the Indians called Pucara, which signifies a gate or narrow pass of a mountain; it also signifies a fortified place, and possibly derived its name from its narrowness and the natural strength of its situation. We now began to descend with more ease towards the province of Chimbo, though the road was not much better than the former. Here we were met by the corregidor of Guaranda or Chimbo, attended by the provincial alcalde, and the most eminent persons of the town. After complimenting us in the most cordial manner on our arrival, we proceeded together, and within a league of the town were met by the priest, a Dominican, accompanied by several of his order, and a great number of the inhabitants, who also left the town on the same friendly occasion; and, to heighten the ceremony, had brought with them a troop of cholos, or Indian boys.

These cholos were dressed in blue, girded round their waste with sashes, on their heads a kind of turban, and in their hands they carried flags. This little corps was divided into two or three companies, and went before us dancing, and singing some words in their language, which, as we were told, expressed the pleasure they received from the sight of such persons arrived safe in their country. In this manner our cavalcade entered the town, on which all the bells in the place were rung, and every house resounded with the noise of trumpets, tabors, and pipes.

On expressing to the corregidor our surprise at this reception, as a compliment far above our rank, he informed us, that it was not at all singular, it being no more than what was commonly practised when persons of any appearance enter the town; and that there was no small emulation between the several towns, in paying these congratulations.

After we had passed the mountains beyond Pacara, the whole country, within the reach of the eye, during a passage of two leagues, was a level and open plain, without trees or mountains, covered with fields of wheat, barley, maize, and other grain, whose verdure, different from that of the mountain, naturally gave us great pleasure; our sight for near a twelvemonth having been conversant only with the products of hot

and moist countries, very foreign to these, which nearly resemble those of Europe, and excited in our minds the pleasing idea of our native soil.

The corregidor entertained us in his house at Guaranda till the 21st of the same month, when we continued our journey to Quito. The thermometer was for three days successively at  $1004\frac{1}{2}$ .

On the 22d, we began to cross the desert of Chimborazo, leaving the mountain of that name on the left, and travelling over different eminences and heights, most of which were of sand, the snow for a great distance forming, as it were, the sides of the mountain. At half an hour after five in the evening, we arrived at a place called Rumi Machai, that is, a stony cave, an appellation derived from a vast cavity in a rock, and which is the only lodging travellers find here.

This day's journey was not without its trouble; for, though we had nothing to fear from precipices, or dangerous passes, like those in the road to Guaranda, yet we suffered not a little from the cold of that desert, then increased by the violence of the wind. Soon after we had passed the large sandy plain, and being thus got over the severest part of the desert, we came to the ruins of an ancient palace of Yncas, situated in a valley between two mountains; but these ruins are little more than the foundations of the walls.

On the 23d, at three quarters after five in the morning, the thermometer was at 1000, or the freezing point, and, accordingly, we found the whole country covered with a hoar frost; and the hut in which we lay had ice on it. At nine in the morning we set out, still keeping along the side of Chimborazo. At two, in the afternoon, we arrived at Mocha, a small, mean place; but where we were obliged to pass the night.

On the 24th, at six in the morning, the thermometer was at 1006; and at nine we set out for Hambato, which we reached at one in the afternoon, after passing several torrents, breaches, or chasms of the mountain Carguairaso, another mountain covered with snow, a little north of Chimborazo. Among these chasms is one without water, the earth remaining dry to the depth of twelve feet. This chasm was caused by a violent earthquake, which will be spoken of in its place.

On the 25th, the thermometer at Hambato, at half an hour after five in the morning, stood at 1010, and on the 26th, at six in the morning, at  $1009\frac{2}{3}$ . This day, having passed the river of Hambato, and afterwards that of St. Miguel, by help of a wooden bridge, we arrived at Latacunga.

On the 27th, at six in the morning, the thermometer was at 1007, when leaving Latacunga we reached in the evening the town of Mula-Halo, having in the way forded a river called Alagues.

On the 28th, the liquor of the thermometer was at the same height as at Latacunga, and we proceeded on our journey, arriving in the evening at the mansion-house or villa called Chi Shinche. The first part of this day's journey was over a large plain, at the end of which we had the pleasure of passing by a structure that belonged to the Pagan Indians, being a palace of the Yncas. It is called Callo, and gave name to the plain. We afterwards came to an acclivity, at the top of which we entered on the plain of Tiopullo, not less in extent than the first; and at the bottom, towards the north, is the house where we were entertained that night.

On the 29th, the thermometer, at six in the morning, was at  $1003\frac{3}{4}$ . We set out the earlier, as this was to be our last journey. A road crossing several breaches and beaten tracts, brought us to a spacious plain called Tura-Bamba, that is, a muddy plain; at the other extremity of which stands the city of Quito, where we arrived at

five in the evening. The president of the province was Don Dionesio de Alzedo y Herrera, who, besides providing apartments for us in the palace of the Audencia, entertained us the first three days with great splendour, during which we were visited by the bishop, the auditors, the canons, the regidores, and all other persons of any distinction, who seemed to vie with each other in their civilities towards us.

In order to form an adequate idea of this country, it will not be amiss, after being so particular in describing the disagreeable parts, and the many dangers to which travellers are exposed, to add a description of the most remarkable productions of nature. The lands between the custom-house of Babahoyo, or Caracol, and Guaranda, are of two kinds: the first, which extends to Tarigagua, is entirely level; and the second, which begins at that part, wholly mountainous. But both, and even two leagues beyond Pucara, are full of thick forests of various kinds of large trees, differing in the foliage, the disposition of their branches, and the size of their trunks. The mountains, which form this chain of the Andes, are, on the west side, covered with woods; but on the east entirely bare. Among these mountains is the source of that river which, being increased on all sides by brooks, makes so grand an appearance between Caracol and Guayaquil, and proves so advantageous to the commerce of the country.

In the level part of this woody extent are a great number of animals and birds, of the same kind with those described in our account of Carthagená, except that to the last may be added wild peacocks, bustards, pheasants, and a few others, which are here in such abundance, that, did they not always rest on the tops of the trees, where, either from their enormous height, or being covered with leaves, they are secure, a traveller, with a good fowling-piece and ammunition, might at any time procure himself an elegant repast. But these forests are also terribly infested with snakes and monkeys, particularly a kind called Marimondas, which are so very large, that, when standing on their hind legs, they are little less than six feet high. They are black, and, in every respect, very ugly; but easily tamed. None of the forests are without them; but they seem most common in those of Guayaquil.

Among the vegetable productions, I shall select three, which to me seemed worthy of a particular description; namely, the cana, vijahua, and the bejuco; as they are not only the materials of which the houses in the jurisdiction of Guayaquil are built, but also applied to various other uses.

The canas, or canes, are remarkable both for their length and thickness, and the water contained in their tubes. Their usual length is between six and eight toises; and though there is a difference in their size, the largest do not exceed six inches diameter. The wood or side of the tube is about six lines in diameter; so that, when the cana is opened, it forms a board near a foot and a half in breadth; and hence it will not appear strange, that houses should be built of such materials. From the time of their first appearance, till they attain their full perfection, when they are either cut down, or of themselves begin to dry, most of their tubes contain a quantity of water; but with this remarkable difference, that at full moon they are entirely, or very nearly, full; and with the decrease of the moon the water ebbs, till at the conjunction little or none is to be found. I have myself cut them at all seasons, so that I here advance nothing but what I know to be true from frequent experience. I have also observed that the water, during its decrease, appears turbid, but about the time of the full moon it is as clear as crystal. The Indians add another particular, that the water is not found in all the joints, one having water, and another not, alternately. All I can say to this singularity is, that on opening a joint which happens to be empty, the two contiguous ones have water; and this is commonly the case in almost all the canes. This water is said

to be an excellent preservative against the ill consequence of any bruises; at least it is drunk as such by all who come from the mountains, where such accidents are unavoidable.

The canes being cut, they are left to dry, or, as they say here, to be cured; whence they acquire such a degree of strength, that they serve either for rafters, beams, flooring, or even masts for balzas. Ships which load with cacao are also ceiled with them, to preserve the timbers from the great heat of that fruit. They are also used as poles for litters, and in an infinite number of other particulars.

The vijahua is a leaf generally five feet in length, and two and a half in breadth. They grow wild, and without any stem. The principal rib in the middle, is between four and five lines in breadth, but all the other parts of the leaf are perfectly soft and smooth: the under side is green, and the upper white, covered with a very fine white and viscid down. Besides the common use of it in covering houses, it also serves for packing up salt, fish, and other goods sent to the mountains; as it secures them from the rain. They are also, in these desert places, of singular use for running up huts on any exigency.

The bejucos are a kind of ligneous cordage, and of two kinds; one growing from the earth, and twining round trees; the other strike their roots into certain trees, and from thence derive their nourishment. Both kinds, after growing to a great height, incline again to the earth, on which they creep till they meet with another tree, to the top of which they climb as before, and then again renew their inclination towards the earth; and thus form a labyrinth of ligatures. Some are even seen extended from the top of one tree to another, like a cord. They are so remarkably flexible, that no bending or twisting can break them. But if not cut at the proper time, they grow of an unwieldy bigness. The slenderest of them are about four or five lines in diameter, but the most common size is between six and eight; though there are others much thicker, but of little or no use, on account of the hardness contracted in their long growth. The chief use of them is for lashing, tying, or fastening different things together; and, by twisting several of them in the nature of ropes, they make cables and hawsers for the balzas and small vessels; and are found by experience to last a long time in the water.

In these forests also grows a tree, called very properly Matapalo, i. e. kill-timber. It is of itself a weak tree; but, growing near another of considerable bulk, and coming into contact with it, shoots above it, when, expanding its branches, it deprives its neighbour of the rays of the sun. Nor is this all; for, as this imbibes the juices of the earth, the other withers and dies. After which, it becomes lord of the soil, and increases to such a bulk, that very large canoes are made of it; for which its wood is, of all others, the best adapted, being very light and fibrous.

## CHAP. II.—*Difficulties attending our making the necessary Observations for measuring the Length of an Arch of the Meridian, and the Manner of our Living during the Operations.*

ALL the progress made during one whole year, which we spent in coming to Quito, was the surmounting the difficulties of the passage, and at length reaching that country where we were to enter on the principal part of our commission. Nor will even this appear a small matter, if the great distance and diversity of climates be considered. A few of the first days after our arrival were spent in making proper returns for the civilities

ties we had received from all persons of rank ; after which, we began to deliberate on the best methods of performing our work ; and the rather, as M. Bouguer and de la Condamine were now arrived. The former reached Quito on the 10th of June, by the same road of Guaranda ; and the latter on the 4th of the same month, having taken his route by the river of Emeralds, in the government of Atacames.

Our first operation was, to measure a piece of ground, which was to be the base of the whole work ; and this we finished during the remainder of the current year. But it proved a very difficult and fatiguing operation, from the heat of the sun, and the winds and rains, which continually incommoded us. The plain made choice of for this base is situated two hundred and forty nine toises lower than Quito, and four leagues to the north-east of that city. It is called the plain of Yaruqui, from a village of that name near it. This plain was particularly chosen, as the best adapted to our operations ; for though there are several others in this district, yet all of them lay at too great a distance from the direction of our base. The quality, disposition, and lower situation, all contribute to render it less cold than Quito. Eastward it is defended by the lofty Cordillera of Guamani and Pambamarca, and westward by that of Pichincha. The soil is entirely sand ; so that, besides the heat naturally resulting from the direct rays of the sun, it is increased by the rays being reverberated by the two Cordilleras ; hence it is also exposed to violent tempests of thunder, lightning, and rain ; but, being quite open towards the north and south, such dreadful whirlwinds form here, that the whole interval is filled with columns of sand, carried up by the rapidity and gyrations of violent eddy winds, which sometimes produce fatal consequences : one melancholy instance happened while we were there ; an Indian, being caught in the centre of one of these blasts, died on the spot. It is not, indeed, at all strange, that the quantity of sand in one of these columns should totally stop all respiration in any living creature, who has the misfortune of being involved in it.

Our daily labour was, to measure the length of this plain in a horizontal direction, and, at the same time, by means of a level, to correct the inequalities of the ground ; beginning early in the morning, and continuing to pursue our task closely till evening, unless interrupted by extreme bad weather ; when we retired to a tent always pitched for that purpose, as well as for a retreat at noon, when the heat of the sun became too great for us, after the fatigue of the morning.

We at first intended to have formed our base in the plain of Cayambe, situated twelve leagues to the north of Quito. Accordingly, the company first repaired to this plain, to view it more attentively. In this place we lost M. Couplet, on the 17th of September 1736, after only two days illness. He was indeed slightly indisposed when we set out from Quito ; but, being of a strong constitution, his zeal for the service would not permit him to be absent at our first essay. On his arrival, however, his distemper rose to such a height, that he had only two days to prepare for his passage into eternity ; but we had the satisfaction to see he performed his part with exemplary devotion. This almost subitaneous death of a person in the flower of his age, was the more alarming, as none of us could discover the nature of his disease.

The mensuration of the base was succeeded by observing the angles, both horizontal and vertical, of the first triangles we intended to form ; but many of them were not pursued, the form and disposition of the series being afterwards altered to very great advantage. In order to this, M. Verguin, with some others, was sent to draw a geographical map of the parts south of Quito ; whilst M. Bouguer did the same with regard to the northern parts ; a task we found absolutely necessary, in order to determine the points where the  
signals

signals should be placed, so as to form the most regular triangles, and whose sides should not be intercepted by higher mountains.

During these operations, M. de la Condamine went to Lima, in order to procure money on recommendatory letters of credit, which he had brought from France, for defraying the expences of the company, till remittances arrived; and Don George Juan followed him, in order to confer with the viceroy of Peru, for amicably determining some differences which had arisen with the new president.

These two gentlemen, having happily terminated their respective affairs, returned to Quito about the middle of June, when both M. Bouguer and those who surveyed the southern parts had finished their plans. It was now determined to continue the series of triangles to the south of Quito; and the company accordingly divided themselves into two bodies, consisting of French and Spaniards, and each retired to the part assigned him; Don George Juan and M. Godin, who were at the head of one party, went to the mountain of Pambamarca; while M. Bouguer, De la Condamine, and myself, together with our assistants, climbed up to the highest summit of Pichincha. Both parties suffered not a little, both from the severity of the cold, and the impetuosity of the winds, which on these heights blew with incessant violence; and these difficulties were the more painful to us, as we had been little used to such sensations. Thus in the torrid zone, nearly under the equinoctial, where it is natural to suppose we had most to fear from the heat, our greatest pain was caused by the excessiveness of the cold, the intenseness of which may be conjectured from the following experiments made by the thermometer, carefully sheltered from the wind, on the top of Pichincha; the freezing point being at 1000.

On the 15th of August, 1737, at twelve at noon, the liquor was at the height of 1003. At four in the evening, at 1001½. At six in the evening, at 998½.

On the 16th of August, at six in the morning, at 997. At ten in the forenoon, at 1005. At twelve at noon, at 1008. At five in the evening, at 1001½. At six in the evening, at 999½.

On the 17th, at three quarters after five in the morning, at 996. At nine in the morning, at 1001. At three quarters after twelve, at 1010. At a quarter after two in the afternoon, at 1012¼. At six in the evening, at 999. And at ten in the evening, at 998.

Our first scheme for shelter and lodging, in these uncomfortable regions, was, to pitch a field-tent for each company; but on Pichincha this could not be done, from the narrowness of the summit; and we were obliged to be contented with a hut, so small, that we could hardly all creep into it. Nor will this appear strange, if the reader considers the bad disposition and smallness of the place, it being one of the loftiest crags of a rocky mountain, one hundred toises above the highest part of the desert of Pichincha. Such was the situation of our mansion, which, like all the other adjacent parts, soon became covered with ice and snow. The ascent up this stupendous rock, from the base, or the place where the mules could come, to our habitation, was so craggy, as only to be climbed on foot, and to perform it, cost us four hours continual labour and pain, from the violent efforts of the body, and the subtilty of the air; the latter being such, as to render respiration difficult. It was my misfortune, when I climbed something above half way, to be so overcome, that I fell down, and remained a long time without sense or motion; and, as I was told, with all the appearances of death in my face. Nor was I able to proceed after coming to myself, but was obliged to return to the foot of the rock, where our servants and instruments remained. The next day I renewed the attempt of climbing the rock; though probably

bably I should have had no better success than before, had not some Indians assisted me in the most steep and difficult places.

The strange manner of living which we were reduced to, may not, perhaps, prove unentertaining to the reader; and therefore I shall, as a specimen of it, give a succinct account of what we suffered on Pichincha. For this desert, both with regard to the operations we performed there, and its inconveniences, differing very little from others, an idea may be very easily formed of the fatigues, hardships, and dangers, to which we were continually exposed. The principal difference between the several deserts, consisted in their greater or lesser distance from places where we could procure provisions; and in the inclemency of the weather, which was proportionate to the height of the mountains, and the season of the year when we visited them.

We generally kept within our hut. Indeed, we were obliged to do this, both on account of the intenseness of the cold, the violence of the wind, and our being continually involved in so thick a fog, that an object at six or eight paces was hardly discernible. When the fog cleared up, the clouds, by their gravity, moved nearer to the surface of the earth, and on all sides surrounded the mountain to a vast distance, representing the sea, with our rock like an island in the centre of it. When this happened, we heard the horrid noises of the tempests, which then discharged themselves on Quito and the neighbouring country. We saw the lightnings issue from the clouds, and heard the thunders roll far beneath us; and whilst the lower parts were involved in tempests of thunder and rain, we enjoyed a delightful serenity; the wind was abated, the sky clear, and the enlivening rays of the sun moderated the severity of the cold. But our circumstances were very different when the clouds rose; their thickness rendered respiration difficult; the snow and hail fell continually, and the wind returned with all its violence; so that it was impossible entirely to overcome the fears of being, together with our hut, blown down the precipice on whose edge it was built, or of being buried under it by the daily accumulations of ice and snow.

The wind was often so violent in these regions, that its velocity dazzled the sight; whilst our fears were increased by the dreadful concussions of the precipice by the fall of enormous fragments of rocks. These crashes were the more alarming, as no other noises are heard in these deserts. And, during the night, our rest, which we so greatly wanted, was frequently disturbed by such sudden sounds. When the weather was any thing fair with us, and the clouds gathered about some of the other mountains which had a connection with our observations, so that we could not make all the use we desired of this interval of good weather, we left our hut, to exercise ourselves, in order to keep us warm. Sometimes we descended to some small distance, and at others amused ourselves with rolling large fragments of rocks down the precipice; and these many times required the joint strength of us all, though we often saw the same performed by the mere force of the wind. But we always took care, in our excursions, not to go too far, but that on the least appearance of the clouds gathering about our cottage, which often happened very suddenly, we could regain our shelter. The door of our hut was fastened with thongs of leather, and on the inside not the smallest crevice was left unstopped; besides which, it was very compactly covered with straw. But, notwithstanding all our care, the wind penetrated through. The days were often little better than the nights; and all the light we enjoyed was that of a lamp or two, which we kept burning, that we might distinguish one another, and improve our time as much as possible in reading. Though our hut was small, and crowded with inhabitants, besides the heat of the lamps, yet the intenseness of the cold was such, that every one of us was obliged to have a chafing dish of coals. These precautions would have

have rendered the rigour of the climate supportable, had not the imminent danger of perishing by being blown down the precipice roused us, every time it snowed, to encounter the severity of the outward air, and fall out with shovels, to free the roof of our hut from the masses of snow which were gathering on it. Nor would it, without this precaution, have been able to support the weight. We were not, indeed, without servants and Indians; but they were so benumbed with the cold, that it was with great difficulty we could get them out of a small tent, where they kept a continual fire. So that all we could obtain from them was, to take their turns in this labour; and even then they went very unwillingly about it, and consequently performed it slowly.

It may be easily conceived what we suffered from the asperities of such a climate. Our feet were swelled, and so tender, that we could not even bear the heat, and walking was attended with extreme pain. Our hands were covered with chilblains; our lips swelled and chapped; so that every motion, in speaking or the like, drew blood; consequently we were obliged to a strict taciturnity, and but little disposed to laugh, an extension of the lips producing fissures, very painful for two or three days together.

Our common food in this inhospitable region was a little rice boiled with some flesh or fowl, which we procured from Quito; and, instead of fluid water, our pot was filled with ice: we had the same resource with regard to what we drank; and, while we were eating, every one was obliged to keep his plate over a chafing-dish of coals, to prevent his provisions from freezing. The same was done with regard to the water. At first we imagined, that drinking strong liquors would diffuse a heat through the body, and consequently render it less sensible of the painful sharpness of the cold; but, to our surprise, we felt no manner of strength in them, nor were they any greater preservative against the cold than common water. For this reason, together with the apprehension that they might prove detrimental to our health, besides the danger of contracting an ill habit, we discontinued their use, having recourse to them but very seldom, and then sparingly. We frequently gave a small quantity to our Indians, together with part of the provisions which were continually sent us from Quito, besides a daily salary of four times as much as they usually earn.

But, notwithstanding all these encouragements, we found it impossible to keep the Indians together. On their first feeling the rigours of the climate, their thoughts were immediately turned on deserting us. The first instance we had of this kind was so unexpected, that, had not one of a better disposition than the rest staid with us, and acquainted us of their design, it might have proved of very bad consequence. The affair was this: there being on the top of the rock no room for pitching a tent for them, they used every evening to retire to a cave at the foot of the mountain, where, besides a natural diminution of the cold, they could keep a continual fire, and consequently enjoyed more comfortable quarters than their masters. Before they withdrew at night, they fastened on the outside the door of our hut, which was so low that it was impossible to go in or out without stooping; and as every night the hail and snow which had fallen formed a wall against the door, it was the business of one or two to come up early and remove this obstruction, that, when we pleased, we might open the door. For though our Negro servants were lodged in a little tent, their hands and feet were so covered with chilblains, that they would rather have suffered themselves to have been killed than move. The Indians therefore came constantly up to dispatch this work betwixt nine and ten in the morning; but we had not been there above four or five days, when we were not a little alarmed to see ten, eleven, and twelve come, without any news of our

labourers.

labourers, when we were relieved by the honest servant mentioned above, who had withstood the seduction of his countrymen, and informed us of the desertion of the four others. After great difficulty, he opened a way for us to come out, when we all fell to clearing our habitation from the masses of snow. We then sent the Indian to the corregidor of Quito with advice of our condition, who, with equal dispatch, sent others, threatening to chastise them severely if they were wanting in their duty.

But the fear of punishment was not sufficient to induce them to support the rigour of our situation; for within two days we missed them. On this second desertion, the corregidor, to prevent other inconveniences, sent four Indians under the care of an alcalde, and gave orders for their being relieved every fourth day.

Twenty-three tedious days we spent on this rock, viz. to the 6th of September, and even without any possibility of finishing our observations of the angles; for, when it was fair and clear weather with us, the others, on whose summits were erected the signals which formed the triangles for measuring the degrees of the meridian, were hid in clouds; and when (as we conjectured, for we could never plainly discern them) those were clear, Pichincha was involved in clouds. It was therefore necessary to erect our signals in a lower situation, and in a more favourable region. This, however, did not produce any change in our habitation till December, when, having finished the observations which particularly concerned Pichincha, we proceeded to others; but with no abatement either of inconveniences, cold or fatigue, the places where we made all our observations being necessarily on the highest parts of the deserts; so that the only respite, in which we enjoyed some little ease, was during the short interval of passing from one to the other.

In all our stations subsequent to that on Pichincha, during our fatiguing mensuration of the degrees of the meridian, each company lodged in a field-tent, which, though small, we found less inconvenient than our Pichincha hut, though at the same time we had more trouble, being oftener obliged to clear it from the snow, as the weight of it would otherwise have demolished the tent. At first, indeed, we pitched it in the most sheltered places; but, on taking a resolution that the tents themselves should serve for signals, to prevent the inconvenience of those of wood, we removed them to a more exposed situation, where the impetuosity of the winds sometimes tore up the piquets, and blew them down. Then we were not a little pleased with our having brought supernumerary tents, and with our dexterity in pitching another instead of that which the wind had torn away. Indeed, without this precaution, we should have been in the utmost danger of perishing. In the desert of Asuay we particularly experienced the benefit of this expedient; three tents belonging to our company being obliged to be pitched one after another, till at last they all became unfit for use, and two stout poles were broken. In this terrible condition our only resource was to quit the post, which was next to the signal of Sinasaguan, and shelter ourselves in a breach or chasm. The two companies were both at that time on this desert, so that the sufferings of both were equal. The Indians who attended us, not willing to bear the severity of the cold, and disgusted with the frequent labour of clearing the tent from the snow, at the first ravages of the wind, deserted us. Thus we were obliged to perform every thing ourselves, till others were sent us from a seat about three leagues distant at the bottom of the mountain.

While we were thus labouring under a variety of difficulties from the wind, snow, frost, and the cold, which we here found more severe than in any other part; forsaken by our Indians, little or no provisions, a scarcity of fuel, and in a manner destitute of shelter, the good priest of Cannar, a town situated at the foot of these Cordilleras, south-west from the signal of Sinasaguan, about five leagues from it, and the road very difficult,

cult, was offering his prayers for us; for he, and all the Spaniards of the town, from the blackness of the clouds, gave us over for lost; so that, after finishing our observations, we passed through the town, they viewed us with astonishment, and received us with the most cordial signs of delight, adding their congratulations, as if we had, amidst the most threatening dangers, obtained a glorious victory: and, doubtless, our operations must appear to them a very extraordinary performance, if we consider the inexpressible horror with which they view those places where we had passed so many days.

It was at first determined to erect signals of wood in the form of a pyramid; but to render our stay in the piercing colds of these regions as short as possible, we abandoned that intention, of which there would have been no end; because, after remaining several days in the densest parts of the clouds, when a clear interval happened, the signals could not be distinguished: some the winds had blown down, and others had been carried away by the Indians who tended their cattle on the sides of the mountains, for the sake of the timber and ropes. To remedy which, the only expedient was to make the very tents in which we lodged serve for signals; for the orders of the magistrates, and threatenings of the priests, were of little consequence in such a desert country, where it was almost impossible to discover the delinquents.

The deserts of the mountains of Pambamarca and Pichincha were the noviciates, in which we were inured to the severe life we led from the beginning of August 1737 to the end of July 1739. During which time, our company occupied thirty-five deserts, and that of Don George Juan, thirty-two, the particulars of which shall be enumerated, together with the names of all those on which we erected signals for forming the triangles; in all which the inconveniences were the same, except that they became less sensible, in proportion as our bodies became inured to fatigue, and naturalized to the inclemencies of those regions, so that in time we were reconciled to a continual solitude, coarse provisions, and often a scarcity of these. The diversity of temperatures did not in the least affect us, when we descended from the intense cold of one of those deserts into the plains and valleys, where the heat, though but moderate, seemed excessive to those coming from such frozen regions. Lastly, without any concern, we encountered the dangers unavoidable among those steep precipices, and a great variety of others to which we were continually exposed. The little cabins of the Indians, and the stalls for cattle scattered up and down on the skirts of the mountains, and where we used to lodge in our passage from one desert to another, were to us spacious palaces; mean villages appeared like splendid cities, and the conversation of a priest, and two or three of his companions, charmed us like the banquet of Xenophon: the little markets held in those towns, when we happened to pass through them on a Sunday, seemed to us as if filled with all the variety of Seville fair. Thus the least object became magnified, when we descended for two or three days from our exile, which in some places lasted fifty days successively; and it must be owned, that there were particular occasions when our sufferings were such that nothing could have supported us under them, and animated us to persevere, but that honour and fidelity which jointly conspired to induce both companies, whatever should be the consequence, not to leave imperfect a work so long desired by all civilized nations, and so particularly countenanced by the two powerful monarchs our sovereigns.

It may not be amiss here to inform the reader of the different opinions conceived by the neighbouring inhabitants, with regard to our enterprise. Some admired our resolution, others could not tell what construction to put upon our perseverance; and even those of the best parts and education among them were utterly at a loss what to think. They made it their business to examine the Indians concerning the life we led, but the

answers they received only tended to increase their doubts and astonishment. They saw that those people, though naturally hardy, robust, and inured to fatigues, could not be prevailed upon, notwithstanding the encouragement of double pay, to continue any time with us. The serenity in which we lived on those dreaded places was not unknown to them; and they saw with what tranquillity and constancy we passed from one scene of solitude and labour to another. This to them appeared so strange, that they were at a loss what to attribute it to. Some considered us as little better than lunatics, others more sagaciously imputed the whole to covetousness, and that we were certainly endeavouring to discover some rich minerals by particular methods of our own invention; others again suspected that we dealt in magic; but all were involved in a labyrinth of confusion with regard to the nature of our design. And the more they reflected on it, the greater was their perplexity, being unable to discover any thing proportionate to the pains and hardships we underwent. And even when we informed them of the real motive of this expedition, which caused so much astonishment, their ignorance of its importance would not suffer them to give credit to what we said; suspecting that we concealed, under the veil of an incomprehensible chimera, our real practices, of which, as I have already observed, they had no good opinion.

Among several pleasant adventures which this occasioned, I shall only mention two, both of which are still fresh in my memory; and may serve to illustrate the strange ideas these ignorant people formed of us. While we were at the signal of Vengotasin, erected on a desert at no great distance from the town of Latacunga, about a league from the place where we had pitched our field-tent was a cow-house, where we constantly passed the night; for the ascent not being remarkably difficult, we could every morning, in fair weather, return soon enough to the tent to begin our observations. One morning as we were passing to the signal, we saw at a distance three or four Indians, in appearance on their knees; and we found indeed, on our approaching nearer, that this was their real posture; we also observed that their hands were joined, and that they uttered words in their language with the greatest fervour and the most supplicant accent; but by the position of their eyes, it was evident that we were the persons whom they thus addressed. We several times made signs for them to rise, but they still kept their posture till we were got at a considerable distance. We had scarce begun to prepare our instruments within the tent, when we were alarmed with a repetition of the same supplicant vociferations. On going out to know the cause, we found the same Indians again on their knees before the tent; nor were we able, by all the signs we could make, to raise them from that posture. There fortunately happened at that time to be with us a servant who understood both the Indian and Spanish languages; and having directed him to ask these poor people what they wanted of us, we were informed that the eldest of them was the father of the others, and that his ass being either strayed or stolen, he came to us, as persons who knew every thing, to entreat us to commiserate his great loss, and put him in a method of recovering his beast. This simplicity of the Indians afforded us no small entertainment; and though we did all we could, by means of our interpreter, to undeceive them, we found they were equally tenacious of this strange error as of genuflexion; and would still believe, that nothing was hid from us; till having wearied themselves with these clamorous vociferations, and finding we took no notice of them, they retired, with all the marks of extreme sorrow that we would not condescend to inform them where they might find the ass; and with a firm persuasion that our refusal proceeded from ill-nature, and not from ignorance.

The other adventure I shall mention, happened to myself in particular, and not with simple and ignorant Indian peasants, but with one of the principal inhabitants of Cuenca. While the whole company were on the mountain of Bueran, not far from the town of Cannar, I received a message from the priest of that place, informing me, that two Jesuits of my acquaintance were passing that way, and, if I was desirous of seeing them, I might find them at his house. As I was cheerfully descending the mountain to enjoy this pleasing invitation, I happened to be overtaken by a gentleman of Cuenca, who was going to take a view of his lands in that jurisdiction, and had observed me coming from our tent. He was, it seems, acquainted with my name, though he had never seen me; but observing me dressed in the garb of the Mestizos, and the lowest class of people, the only habit in which we could perform our operations, he took me for one of the servants, and began to examine me; and I was determined not to undeceive him till he had finished. Among other things, he told me, that neither he nor any body else would believe, that the ascertaining the figure and magnitude of the earth, as we pretended, could ever induce us to lead such a dismal and uncouth life; that, however we might deny it, we had doubtless discovered many rich minerals on those lofty deserts; adding, that persons in his circumstances were not to be satisfied with fine words. Here I laboured to remove the prejudices he entertained against our operations; but all I could say only tended to confirm him in his notion; and, at parting, he added, that doubtless, by our profound knowledge in the magic art, we might make much greater discoveries than those who were ignorant of it. These opinions were blended with others equally absurd and ridiculous; but I found it impossible to undeceive him, and accordingly left him to enjoy his own notions.

Our series of triangles in the south part being finished, and a second base measured by each company, to prove the truth of our work, we began our astronomical observations; but our instruments not being perfectly adapted to that intention, we were obliged, in the month of December of the same year, to return to Quito, in order to construct another, on whose accuracy we could safely rely; and this employed us till the first of August of the following year 1740; when, without any farther loss of time, we again repaired to Cuenca, and immediately began our observations; but these being very tedious, were not finished before the end of September; the atmosphere of that country being very unfavourable to astronomical observations. For, in the deserts, the clouds in which we were so frequently involved hindered us from discerning the other signals; and in the city, over which they spread a kind of perpetual pavilion, they hid the stars from us while they passed the meridian; but patience and resolution, inspired by the importance of our enterprise, having enabled us at last to perform our task on the south side of the equator, we prepared for our journey to the north of it, in order to make the astronomical observations at the other extremity of the arch of the meridian, and thus put the finishing hand to our work: but this was for some time retarded by an accident of importance which called us to Lima.

In December 1743, the reasons which detained us at Lima, Guayaquil, and in Chili, no longer subsisting, we returned to Quito in January 1744, when Don George Juan and I prolonged the arch of the meridian four triangles, by which it was extended to the place where M. Godin, in 1740, had made the second astronomical observation, and which he now repeated, and finished in the month of May 1744.

Messrs. Bouguer and M. de la Condamine having at that time finished the several parts assigned to them, had left Quito, in order to return to France; the former by the way of Carthagena, and the latter by the river of the Amazons; but the rest of the company remained there some time; some for fear of being taken by the enemy, some for want

want of the means to defray the charges necessary in so long a journey, and others on account of their having contracted some obligations, and were unwilling to leave the country till they could discharge them. So that in the former only the natural desire of returning to their country prevailed, in order there to repose themselves after such a series of labours and hardships, by which the health and vigour of all were in some measure impaired.

CHAP. III. — *The Names of the Deserts and other Places where the Signals were erected for forming the Series of Triangles for measuring an Arch of the Meridian.*

IN order to gratify the curiosity of the reader with regard to our operations, I shall mention in separate articles, the places where each company made their observations, and the time they were obliged to remain there; omitting a detail of circumstances, many of which would be little more than a paraphrase on the subject of the preceding chapter. Nor shall I here include those stations used in the year 1736, after measuring the base of Yaruqui, both on its extremities and in the deserts of Pambamarca and Yllahalo; for the disposition of the triangles being afterwards altered, they were repeated. Therefore, considering them as not used at that time, I shall begin with those stations in which no such circumstances happened, and range them in the order they were occupied.

*Deserts on which the Signals were erected for the Operations conducted by M. de la Condamine and myself.*

I. — SIGNAL on the Desert of Pichincha.

The signal was at first erected on the highest summit of Pichincha, but afterwards removed to another station at the foot of the pic; the top having been afterwards found not to be the most proper place. We began our observations on this mountain on the 14th of August 1737, but could not finish them before the beginning of December following.

II. — THE Signal on Oyambaro, the South Extremity of the Base of Yaruqui.

On the 20th of December 1737, we removed to Oyambaro; and finished our observations necessary to be made there on the 29th of the same month.

III. — SIGNAL on Caraburu, the Northern Extremity of the Base of Yaruqui.

On the 30th of December we passed to Caraburu, and continued there till the 24th of January 1738. This long stay was partly occasioned by the badness of the weather, and partly by the want of signals.

IV. — SIGNAL on the Desert of Pambamarca.

On this desert of Pambamarca, where we had before been in 1736, on finishing the measurement at Yaruqui, a second signal was erected here, and we went up the 26th of January 1738, where we remained till the 8th of February; and though we had not here the difficulties of the ice and snow to struggle with, as on Pichincha and other subsequent

subsequent stations, yet we were extremely incommoded by the velocity of the winds, which were so violent that it was difficult to stand; and, notwithstanding the best shelter possible to be procured, we often found it very difficult to keep the instrument steady; which, of consequence, greatly increased the difficulty of making the observations with the necessary accuracy.

#### V. — SIGNAL on the Mountain of Tanlagua.

On the 12th of February we ascended the mountain of Tanlagua; and having the next day finished our observations, returned. If this mountain be but small in comparison of others in this Cordillera, and thus saved us the many inconveniencies of a lofty station, yet the steepness of its sides put us to no small difficulty, there being no other possible method of going up than by climbing; and the greatest care is requisite in fixing the hands and feet close and firm; nor is it possible to climb it in less than four hours. The descent, as may naturally be concluded, is little less hazardous, as you must sit and slide down much the greater part of it; and this must be done gently, lest, by celerity of motion, you tumble down the precipice.

#### VI. — SIGNAL on the Plain of Changalli.

On the 17th of March we removed to the signal of Changalli, and finished the necessary observations on the 20th. We spent the time here very comfortably. The signal was erected on a plain, where neither the air nor weather molested us; and being lodged in a farm-house near the signal, and not far from the town of Pintac, we had all the necessary conveniencies of life, the want of which we often severely felt in the deserts. These comforts did not, however, in the least abate our diligence to avail ourselves of every instant when the signals on the mountains were not concealed in clouds. But one circumstance which lengthened our stay was, that some of the signals were wanting, having been blown down by the wind; it was therefore resolved, that for the future the field-tents should serve for signals. And, accordingly, we afterwards constantly pursued this method.

#### VII. — SIGNAL on the Desert of Pucaguaico, on the Side of the Mountain Catopaxi.

This mountain we ascended the 21st of March, and on the 4th of April were obliged to return, after in vain endeavouring to finish our observations. For, not to mention our own sufferings, the frost and snow, together with the winds, which blew so violently that they seemed endeavouring to tear up that dreadful volcano by its roots, rendered the making observations absolutely impracticable. Such is indeed the rigour of this climate, that the very beasts avoid it; nor could our mules be kept at the place where we, at first, ordered the Indians to take care of them; so that they were obliged to wander in search of a milder air, and sometimes to such a distance that we had often no small trouble in finding them.

At Pucaguaico we however saw the necessity of either erecting the signal further to the south, or setting up another in the intermediate space. Several consultations were held, to determine on the best method; but, as other things were necessary to be done before we came to a conclusion, the operations were suspended, and the interval spent in making observations on the velocity of sound, and other physical subjects. Every thing being ready for renewing our operations, we a second time ascended Pucaguaico.

on the 16th of August, and it was our good fortune by the 22d to have finished all our necessary operations.

#### VIII. — SIGNAL on the Desert Corazon.

On the 12th of July, before we had finished our operations at the station of Pucaguaico, we ascended to the desert Corazon, where we staid till the 9th of August. This mountain is nearly of the same height with that of Pichincha; and its loftiest summit, like that of the former, a rock of considerable altitude. At the foot of this rock the signal was erected; and thus our station nearly resembled that of Pichincha. There was indeed this considerable difference, that our sufferings from the winds, frost, and snows, were considerably less.

#### IX. — SIGNAL on Papa-urco.

It had been determined that Papa-urco should be the place where the intermediate signal betwixt those of Pucaguaico and Vengotafin should be erected. This mountain, which is of a middling height, we ascended the 11th of August, and continued on it till the 16th, when we returned to Pucaguaico; so that this easy mountain was a kind of resting-place between the two painful stations of Corazon and Pucaguaico.

#### X. — SIGNAL on the Mountain of Milin;

Whose height is nearly the same with that of the Papa-urco. We ascended it on the 23d of August, and by the 29th had finished the necessary observations.

#### XI. — SIGNAL on the Mountain Vengotafin.

The mountain of Vengotafin is not remarkably high, but our stay on it was longer than we at first imagined; for, after finishing our observations on the 4th of September, some difficulties which arose with regard to the position of the following signal towards the south detained us till the 18th. However, the town of Latacunga being contiguous to the skirts of this mountain, and having several farms in its neighbourhood, we were at no loss for many conveniencies of which we were destitute in several other stations.

#### XII. — SIGNAL on the Mountain of Chalapu.

Our stay on this mountain was shorter than on any other in the whole series of triangles; for we continued only part of four days, going up the 20th and coming down the 23d. It is none of the highest mountains, and has in its neighbourhood the town of Hambato, and its skirts diversified with seats and farms; but the acivity is so steep, that the safest way is to ascend it on foot.

#### XIII. — SIGNAL of Chichichoco.

The signal of Chichichoco was erected on the side of the mountain of that name, which is a branch of the famous snowy mountain of Carguairaso. Here we stayed only from the 24th to the 29th of September. Though the spot where we placed the signal was of a very inconsiderable height when compared with that of the other mountains, yet, from its proximity to Carguairaso, when the wind blew from that quarter, it was considerably cold, but not comparable to that we felt on the deserts, where every  
part

part was covered with ice, hail, or snow. The day we left this place, while our Indians were loading the mules, and we in the tent ready to set out on our journey, an earthquake was felt, which reached four leagues round the country. Our tent rocked from side to side, in conformity to the undulating motion observed in the earth; this shock was only one of the small concussions frequent in those parts.

#### XIV. — SIGNAL of Mulmul.

This signal, and the three following, occasioned several journeys from one to another; as, for the greater accuracy of the observations, auxiliary triangles were to be formed, in order to verify the distances resulting from the principal. The difficulty also of reciprocally distinguishing some signals from others, obliged us to change their position, till they stood in proper places; and consequently laid us under a necessity of going often from one station to another. On the 8th of November, having finished all our observations, the company removed to Riobamba, where I myself had been confined ever since the 20th of October, with a critical disease, which at first attacked me at Chichichoco, and increasing at Mulmul, I was obliged to remain in a cow-house on that mountain, from whence I was removed to Riobamba; and this accident hindered me from being present at the signals XV. XVI. and XVII. which were those of Guayama, Limal, and Nabufo.

#### XVIII. — SIGNAL of Sifa-pongo.

At the signal of Sifa-pongo we continued from the 9th to the end of November; and here the trigonometrical observations were intermitted till Don George Juan and M. Godin returned from Quito, to which city they repaired in order to take some measures necessary for the continuation of the work. But, that this interval might not be lost, M. Bouguer proposed to make some experiments, in order to demonstrate the system of attraction. The place he made choice of for these experiments was the mountain of Chimborazo. In this station, and the following, of the sandy desert of the same mountain, we suffered more than on any other.

#### XIX. — SIGNAL of Lalangufo.

On the desert of Lalangufo, our observations were continued from the 24th to the 31st of January 1739.

#### XX. — SIGNAL on the Desert of Chufay.

The station on the desert of Chufay was one of the most tedious in the whole series of triangles, being unavoidably detained on this disagreeable mountain from the 3d of February to the 24th of March. This delay was occasioned by the difficulty of pitching on proper places for erecting the succeeding signals, that they might stand in full view, be easily distinguished one from another, and form regular triangles. This was indeed a difficult task, the lofty summits of the mountains of the Cordillera of Azuay, where they were to be placed, intercepting each other from our sight. The tediousness of this station was increased by the rigour of the weather, the strength of the winds, and its great distance from any place where we could procure convenient shelter and refreshments.

## XXI. — SIGNAL on the Desert of Tialoma.

On the desert of Tialoma we continued from the 26th of March to the 25th of April, but had little, except the length of the time, to complain of.

## XXII.—SIGNAL on the Desert of Sinafaguan.

We arrived at the desert of Sinafaguan on the 27th of April, and left it on the 9th of May, the only clear day we had during our stay; but as we have already mentioned our sufferings on this desert, it will be unnecessary to repeat them here.

## XXIII. — SIGNAL on the Desert of Bueran.

We continued on the desert of Bueran from the 10th of May to the 1st of June; but, besides the small height of the mountain, the town of Cannar being only two leagues distant from it, we were in want of nothing. The temperature of the air was also much more mild than on the other deserts; besides, we had the great satisfaction of relieving our solitude by going to hear mass on Sundays, and other days of precept, in the town. These comforts had, however, some alloy; for while we continued on this desert, the animals, cottages, and Indians, suffered three times in a very melancholy manner by tempests of lightning, which fell on the neighbouring plains; all those countries, especially the desert of Burgay, which borders on that of Bueran, being subject to terrible storms.

## XXIV. — SIGNAL on the Desert of Yafuay.

Our observations at the signal of Yafuay were not finished till the 16th of July; there being a necessity, before we could conclude them, to pitch on the most convenient place for measuring a second base, in order to prove the accuracy of all the preceding geometrical operations; and, after fixing on a proper spot, to determine where the signals between Yafuay and the base could be most properly placed. In order to this, we went to Cuenca, and from thence proceeded to the plains of Talqui and los Bannos. At last it was determined that the base should be measured in the former, by which the result of the triangles was to be verified by my company, and that of the other in the plain of Los Bannos. The requisite signals also were erected; and we returned to the desert of Yafuay, where we continued our observations, which employed us from the 7th to the 16th of July. Though this mountain is one of the highest in the whole territory of Cuenca, and the ascent so steep that there is no going up but on foot, nor even by that method without great labour, yet the cold is far from being so intolerable as on Sinafaguan and the deserts north of that mountain. So that we cheerfully supported the inconveniences of this station.

## XXV. — SIGNAL on the Mountain of Borma.

This mountain is but low, as are all the others in the neighbourhood of Cuenca, so that here we were not impeded by any cloudy summits. It was also our good fortune that Yafuay, contrary to our apprehensions, was clear and visible the whole 19th of July; so that we finished our observations in two days agreeably.

XXVI. XXVII. XXVIII. XXIX. — SIGNALS of Pugin, Pillachiquir, Alparupasca, and Chinan.

The two last being the north and south extremities of the base of Talqui, the four stations of Pugin, Pillachiquir, Alparupasca, and Chinan did not require our attendance; for being near the base of Talqui, we daily went from the farm-houses where we lodged, and observed the angles, except that of Pillachiquir, to which, on account of its greater distance than that of the other signals, there was a necessity for our visiting; but happily concluding our observations the same day we reached it, there was no reason for our longer stay.

XXX. XXXI. — SIGNALS of Guanacauri, and the Tower of the great Church of Cuenca.

The series of triangles, except the two last at the extremities of the second base, being finished, it was necessary to form other triangles, in order to fix the place of the observatory where, when the geometrical observations were finished, the astronomical were to begin. Those which fell to my lot, were a signal on the mountain of Guanacauri, and the tower of the great church of Cuenca; and these angles were taken at the same time the astronomical observations were making.

At the north extremity of the arch of the meridian new triangles were afterwards formed, as we have already observed in the foregoing chapter. This rendered it necessary for us to make choice of different places on these mountains for erecting other signals in order to form these triangles. The same order which had been followed during the whole series of mensuration, that each person should take two angles of every triangle, was observed here; and those assigned to me were the following:

XXXII. XXXIII. XXXIV. XXXV. — SIGNALS on Guapulo, the Mountain of Campanario, and those of Cofin, and Mira.

The observations to be made at these four stations could not be finished till those alarming reasons which called us to Lima and Chili no longer subsisted, and we were returned to Quito. The work at the first and last stations was dispatched without the necessity of lodging there; for, being near Quito and the village of Mira, when the weather promised us a favourable opportunity, it was only an easy ride; but we found it very different with regard to the stations of Campanario and Cofin. However, we left all the four at the same time, namely, on the 23d of May 1744; the day when Don George and myself put the finishing hand to the astronomical observations which we had re-assumed on the 14th of February of the same year; and thus the whole process relative to the mensuration of an arch of the meridian was concluded.

*Signals erected on Deserts, &c. where the Observations were conducted by Mr. Godin and Don George Juan.*

The stations immediately subsequent to the admeasurement of the base of Yaruqui, in the year 1736, and afterwards not made use of, as we have already observed, were common to both companies; the method which was afterwards followed, for every one to observe two angles in all the triangles, not having been thought of; though it both shortened the work, and, at the same time, rendered it much easier: so that Don George

Juan and Mr. Godin were on the deserts of Yllahalo and Pambamarca, at the same time with Mess. Bouguer and Condamine and myself.

#### I. II. — SIGNALS on the Extremities of the Base of Yaruqui.

In order to make the necessary observations relating to these two signals, they left Quito on the 20th of August 1737, and had completely finished them by the 27th.

#### III. — SIGNAL on the Desert of Pambamarca..

After they had concluded all the necessary observations at the extremities of the base, they went without delay to the desert of Pambamarca, and completely finished their operations by the first of September.

#### IV. — SIGNAL on the Mountain of Tanlagua.

Having finished their observations on the desert, they came down to the little town of Quenche, in that neighbourhood, in order to proceed from thence to Tanlagua; but the Indians, who were to accompany them, being no strangers to the extreme severity of the weather on that desert, discouraged by their recent sufferings on Pambamarca, and knowing they should still suffer more on Tanlagua, were not to be found; and the lowest class of inhabitants in the town, apprehending that they should be sent on this painful service, also left their habitations and absconded; so that the joint endeavours of the alcalde and priest to discover them proved ineffectual; and after a delay of two whole days, the curate, with great difficulty, prevailed on the sacristan, and other Indians employed in the service of the church, to accompany them, and take care of the loaded mules as far as the farm-house of Tanlagua, where they arrived the 5th of September. The next day they began to ascend the mountain, which, being very steep, took them up a whole day in climbing it. But this being more than the Indians were able to perform, as they carried the field-tents, baggage, and instruments, they were obliged to stop half way; so that those on the top were under a necessity of passing the night there without any shelter; and a hard frost coming on, they were almost perished with cold; for they were so greatly affected by it, that they had no use of their limbs till they returned to a warmer air. After all these hardships, the gentlemen could not finish their observations, some of the signals being wanting, having either been blown down by the winds, or carried away by the Indian herdsmen: so that, during the interval, while persons were employed in erecting others, they returned to Quito, and applied themselves to examine the divisions of the quadrants. These operations, being very tedious, employed them till the month of December, when, all the signals which were wanting being replaced, they again, on the 20th of December, repaired to their post at Tanlagua; and on the 27th finished the observations necessary to be made at that station.

#### V. — SIGNAL on the Mountain of Guapulo.

The signal of Guapulo being erected on a mountain of no great height, and in the neighbourhood of Quito, their residence was not necessary; for, by setting out from the city at day-break, they could reach the field tent, where the instruments were left, early in the morning. These journeys repeated every day, and though every moment of time was improved to the greatest advantage, it was the 24th of January 1738 before they

they finished the observations, with that accurate precision so conspicuous in all their operations.

#### VI. — SIGNAL on the Cordillera and Desert of Guamani.

They were obliged to make two journeys to the mountain of Guamani, the signal having been first misplaced, so as not to be seen from that erected on Corazon; and consequently there was a necessity for removing it. And though, in order to do this, they ascended the mountain on the 28th of January, they found it necessary to return thither on the 7th of February, when they were fortunate enough to finish every thing remaining the very next day.

#### VII. — SIGNAL on the Desert of Corazon.

This mountain also the gentlemen were obliged to visit twice; the first journey was on the 20th of January, and the second on the 12th of March 1738.

#### VIII. — SIGNAL of Limpie-pongo, on the Desert of Cotopaxi.

They went up to the desert of Cotopaxi on the 16th of March, and remained there till the 31st; when they observed that the signal of Guamani was not visible from thence, and therefore it was necessary to erect another in the intermediate space; which being completed on the 9th of August, they again repaired to the signal of Limpie-pongo, on Cotopaxi; where they finished all their operations by the 13th of the same month, and left every thing in exact order. In ascending the mountain in this second journey, the mule on which Don George Juan rode fell down a breach four or five toises deep, but providentially without receiving the least hurt.

As they had been obliged to erect another signal between those of Guamani and Limpie-pongo, in order to continue the series of triangles; so there was also a necessity for returning to some stations, to observe again the angles which had before been determined. These operations, together with the experiments on the velocity of sound, and the observations at the new signal, filled up the interval from the time the operations were suspended on Limpie-pongo, till they returned to finish them.

#### IX. — SIGNAL on the Desert of Chinchulagua.

The operations of the signal of Chinchulagua, erected on the desert of the same name, were completed on the 8th of August; but a doubt arising with regard to one of the angles observed, for the greater certainty, they returned to this station, and again examined the angle in question, after they had finished their observations at Limpie-pongo.

#### X. — SIGNAL on the Mountain of Papa-urco.

After verifying the observation on Chinchulagua, they removed to the signal of Papa-urco, and finished their observations in the same month of August. Here they for some time suspended their operations, being called to Quito on affairs of importance, relating to the French academicians.

#### XI. — SIGNAL on the Mountain of Milin.

The affairs which had required M. Godin's presence at Quito being terminated within the month, they returned, on the 1st of September, to make the necessary observations

tions at the signal of Milin, where they continued till the 7th, when they left it, having completely finished their operations.

## XII. — SIGNAL on the Desert of Chulapu.

From Milin they proceeded to the desert of Chulapu, where they remained till the 18th of September, when they had finished all their observations. Till this signal, exclusive, each company had observed the three angles of all the triangles; both because they differed from one another, and to prove by this precision the errors in the divisions of the quadrants, before observed by other methods. But from this signal, inclusive, each company observed two angles only of the other triangles, as had been agreed on.

## XIII. — SIGNAL in Jivicatfu.

In Jivicatfu they remained from the 18th to the 26th of September. This station was one of the most agreeable; for, besides the height on which the signal was erected, the temperature of the air, and the cheerful aspect of the country, the town of Pilaro was in the neighbourhood, so that they wanted for nothing.

## XIV. XV. — SIGNALS on the Deserts of Mulmul and Guayama.

These two deserts are placed together, because their summits are united by gentle eminences; on one of which is a cow-house, used by the Indians when they go in search of their cattle, which feed on the sides of this mountain. In this cow-house Don George Juan, M. Godin, and their attendants, took up their quarters on the 30th of September, and every morning, when the weather was favourable, repaired to the signal erected on one or other of the eminences. But the distance between the two stations being very small, and the observations made there requiring to be verified by those of other auxiliary triangles, it was absolutely necessary to determine exactly the stations where these triangles were to be formed; and to remain there till the distances were settled, and the observations relating to them concluded; which operations, notwithstanding the greatest diligence was used, employed them till the 20th of October.

Every thing at the two preceding stations being finished, they repaired to the village of Riobamba, determining to continue their work without interruption; but meeting with some difficulties concerning the most advantageous position of the subsequent triangles, and money beginning to grow short with our whole society, both Spaniards and French, it was thought necessary to make use of the interval while the proper places for erecting the signals were determining, to procure supplies. Accordingly, M. Godin and Don George Juan again set out from Riobamba for Quito on the 7th of November; but it was the 2d of February following before we had the pleasure of congratulating them on their return, the former having been seized with a fever, which brought him very low, and detained them a considerable time at Quito.

## XVI. XVII. — SIGNALS on Amula and Sifa-pongo.

The observations necessary at the signal of Amula were finished before the journey to Quito; and from the 2d of February 1739, when they returned to Riobamba, till the 19th, they were employed in those relating to Sifa-pongo.

**XVIII. — SIGNAL on the Mountain of Sefgum.**

On the mountain of Sefgum they had occasion to stay only from the 20th to the 23d of February. For this signal stood on the declivity of a mountain, and they vigilantly employed every moment when the other deserts were free from those clouds in which they are usually involved.

**XIX. — SIGNAL on the Desert of Senegualap.**

The observations at the signal of Senegualap detained them from the 23d of February to the 13th of March. The length of the time was indeed the most disagreeable part, as otherwise they did not place this among the worst stations they had met with during their course of observations.

**XX. — SIGNAL on the Desert of Chufay.**

From Senegualap they proceeded to the desert of Chufay, a station which gave these gentlemen no less trouble than it had done us. Our company had no concern with the station on this desert; for according to the alternative established between the two companies, that of Senegualap was the place to which we were to repair. But after finishing the observations at Lalangufo, being uneasy at the long stay of M. Godin and Don George Juan at Quito, to divert our thoughts by some laborious employment, we divided our company into two, in order to prosecute the mensuration, till those gentlemen returned. Accordingly, M. Bouguer, at the head of one detachment, went to the signal of Senegualap, and M. de la Condamine and myself repaired to that of Chufay. But M. Godin and Don George Juan joining us there, we returned to our proper company, and the operations were continued in the order agreed on.

**XXI. — SIGNAL on the Desert of Sinafaguan.**

This desert was one of those common to both companies; and that of Don George Juan remained on it till the 29th of May, when the observations of both were finished. Thus every member of the two companies equally shared in the fatigues of the operations, and in the hardships unavoidable in such dreary regions.

**XXII. — SIGNAL on the Desert of Quinoaloma.**

The desert of Quinoaloma, like the former, may be classed among the most disagreeable stations in the whole series; for though they repaired hither from Sinafaguan, it was the 31st of the same month before they could finish the observations relating to this signal.

In their road from Quinoaloma they passed through the town of Azogues; where leaving their instruments and baggage, they went to Cuenca, to survey the plains of Talqui and Los Bannos, in order to make choice of one of them for measuring the base; and having pitched on the latter, and consulted with us relating to the signals wanting, they returned to the town of Azogues.

**XXIII. — SIGNAL on the Desert of Yafuay.**

On the 15th of June they proceeded to the desert of Yafuay, and continued there till the 11th of July; when, having finished their observations, they returned to Cuenca, where they employed themselves in measuring the base on the plain of Los Bannos,

Bannos, and in beginning the astronomical observations. This they prosecuted with incessant diligence till the 10th of December following, when, in order to continue them with the greater precision and certainty, a new instrument became necessary, and for this purpose they repaired to Quito.

XXIV. XXV. XXVI. XXVII. — SIGNALS of Namarelte, Guanacauri, Los Bannos, and the Tower of the great Church of Cuenca.

Whilst they were making the astronomical observations at Cuenca, they also, by unwearied diligence, finished those relating to the geometrical mensuration at the four stations of Namarelte, Guanacauri, Los Bannos, and the tower of the great church of Cuenca. The first three stations were to connect the base (which reached from Guanacauri to Los Bannos) with the series of triangles; and the last served for the observatory jointly with the base. The observations at all these were completely finished at this time; for though the next year we found it necessary to go to Cuenca to repeat the astronomical observations, yet all the operations relating to the geometrical mensurations were accurately finished at this time.

XXVIII. XXIX. XXX. XXXI. XXXII. — Signals on the Mountains of Guapulo, Pambamarca, Campanario, Cuicocha, and Mira.

In the year 1744, when we returned to the province of Quito, in order to conclude the whole work, having conquered the difficulties which obliged us to intermit the astronomical observations, as we have already observed, Don George Juan added six stations to the series of triangles, there being a necessity for repeating the observations of Guapulo and Pambamarca, in order to extend the series of triangles farther to the northward, and of his repairing again to the mountains of Campanario and Cuicocha. Here, and at Pambamarca, he was obliged to remain amidst all the inconveniences and hardships of those dreadful regions, till he had completed the necessary observations; all which he bore with great magnanimity; but at those of Guapulo and Mira, which served to connect the observatory, those inconveniences were avoided; but as the observations at the last station were jointly performed by both companies, the particulars of them have been already mentioned.

#### CHAP. IV. — *Description of the City of Quito.*

AS in the preceding descriptions of the several cities and towns, I have not swelled the accounts with chronological and historical remarks, I shall observe the same method with regard to Quito, and only give an accurate account of the present state of this country, the manners and customs of the inhabitants, and the situation of the several places; that such as know them only by name, may avoid those dangerous errors which too often result from forming a judgment of things without a thorough knowledge of them. It may not, however, be amiss to premise, that this province was subjected to the empire of Peru, by Tupac-Inga-Yupanqui, the eleventh Ynca.

Garcilaso, in his history of the Yncas of Peru, the best guide we can follow on this subject, observes, that this conquest was made by the army of that emperor, commanded by his eldest son Hueyna-Capac, who also succeeded him in the empire. Hueyna-Capac, among other natural children, had one called Ata-Hualpa, by a daughter of the last

last king of Quito; and being extremely fond of him, on account of his many amiable qualities and accomplishments, in order to procure him an honourable settlement, prevailed on his legitimate and eldest son Huascar to allow him to hold the kingdom of Quito as a fief of the empire; it being an invariable law, that all conquests were to be perpetually annexed to the empire, and not alienated from it on any account whatever. Thus Hueyna-Capac enjoyed the satisfaction of seeing his favourite a sovereign of large dominions. But on the death of his father, this prince, of whom such great hopes had been conceived, ungratefully rebelled, seized on the empire, imprisoned his brother, and soon after put him to a violent death. His prosperity was, however, but of short continuance; for he suffered the same fate by order of Don Francisco Pizarro, who had sent Sebastian de Belalcazar to make a conquest of the kingdom of Quito. He routed the Indians wherever they ventured to face him; and having soon, by a series of victories, made himself master of the kingdom, and in the year 1534, rebuilt the capital, which had suffered extremely from intestine commotions, called it San Francisco de Quito, a name it still retains, though it was not till seven years after that the title of city was conferred upon it.

We found, from accurate observations, that the city of Quito is situated in the latitude of  $0^{\circ} 13' 33''$  south, and in  $298^{\circ} 15' 45''$  of longitude from the meridian of Teneriffe. It stands in the inland parts of the continent of South America, and on the eastern skirts of the West Cordillera of the Andes. Its distance from the coast of the South Sea is about thirty-five leagues west. Contiguous to it, on the north-west, is the mountain and desert of Pichincha, not less famous among strangers for its great height, than among the natives for the great riches it has been imagined to contain ever since the times of idolatry; and this only from a vague and unsupported tradition. The city is built on the acclivity of that mountain, and surrounded by others of a middling height, among the breaches, or guaycos, as they are called here, which form the eminences of Pichincha. Some of these breaches are of a considerable depth, and run quite through it, so that great part of the buildings stand upon arches. This renders the streets irregular and extremely uneven, some being built on the ascents, descents, and summits of the breaches. This city, with regard to magnitude, may be compared to one of the second order in Europe; but the unevenness of its situation is a great disadvantage to its appearance.

Near it are two spacious plains; one on the south called Turu-bamba, three leagues in length; and the other on the north, termed Inna-Quito, about two leagues in extent. Both are interspersed with seats and cultivated lands, which greatly add to the prospect from the city, being continually covered with a lively verdure, and the neighbouring plains and hills always enamelled with flowers, there being here a perpetual spring. This scene is beautifully diversified with large numbers of cattle feeding on the eminences, though the luxuriance of the soil is such, that they cannot consume all the herbage.

These two plains contract as they approach the city, and, at their junction, form a neck of land, covered with those eminences on which part of Quito stands. It may, perhaps, appear strange, that, notwithstanding two such beautiful and extensive plains are so near the city, a situation so very inconvenient should be preferred to either. But the first founders seem to have had less regard for convenience and beauty, than for preserving the remembrance of their conquest, by building on the site of the ancient capital of the Indians, who made choice of such places for erecting their towns; probably from their being better adapted to defence. Besides, the Spaniards, during the infancy of their conquest, little imagined this place would ever increase to its present magnitude. Quito, however, was formerly in a much more flourishing condition than

at present ; the number of its inhabitants being considerably decreased, particularly the Indians, whole streets of whose huts are now forsaken, and in ruins.

South-west from Quito, on the neck of land belonging to the plain of Turu-bamba, is an eminence called Panecillo, or the Little Loaf, from its figure resembling a sugar loaf. Its height is not above a hundred toises, and between it and the mountains covering the east part of the city is a very narrow road. From the south and west sides of the Panecillo issue several streams of excellent water ; and from the eminences of Pichincha several brooks flow down the breaches, and, by means of conduits and pipes, plentifully supply the whole city with water ; whilst the remainder, joining in one stream, forms a river called Machangara, which washes the south parts of the city, and is crossed over by a stone bridge.

Pichincha, in the Pagan times, was a volcano, and even some fiery eruptions have been known since the conquest. The mouth, or aperture, was in a pic nearly of the same height with that on which we took our station ; and the top of it is now covered with sand and calcined matter. At present no fire is ejected, nor does there any smoke issue from it. But sometimes the inhabitants are alarmed by dreadful noises, caused by winds confined in its bowels, which cannot fail of recalling to their minds the terrible destruction formerly caused by its eruptions, when the whole city and neighbouring country were often, as it were, buried under a deluge of ashes, and the light of the sun totally intercepted, for three or four days successively, by impenetrable clouds of dust. In the centre of the plain of Inna-Quito is a place called Rumibamba, i. e. a stony plain, being full of large fragments of rocks thrown thither by the ejections of the mountain. We have already observed, that the highest part of Pichincha is covered with ice and snow, considerable quantities of which are brought down to the city, and mixed with the liquors drunk by people of fashion.

The principal square in Quito has four sides, in one of which stands the cathedral, and in the opposite the episcopal palace ; the third side is taken up by the town-house, and the fourth by the palace of the audience. It is very spacious, and has in the centre an elegant fountain. It is indeed rather disfigured than adorned by the palace of the audience ; which, instead of being kept in repair conformable to the dignity of government, the greatest part of it has been suffered to fall into ruins, and only a few halls and offices taken any care of ; so that even the outward walls continually threaten to demolish the parts now standing. The four streets terminating at the angles of the square are straight, broad, and handsome ; but at the distance of three or four quadras (or the distance between every two corners, or stacks of building, and which here consists of about a hundred yards, more or less) begin the troublesome declivities. This inequality deprives the inhabitants of the use of coaches, or any other wheel-carriage. Persons of rank, however, to distinguish themselves, are attended by a servant carrying a large umbrella : and ladies of the first quality are carried in sedans. Except the four streets above-mentioned, all the rest are crooked, and destitute both of symmetry and order. Some of them are crossed by breaches, and the houses stand on the sides of their winding course and irregular projections. Thus some parts of the city are situated at the bottom of those breaches, while others stand on their summits. The principal streets are paved ; but those which are not, are almost impassable after rain, which is here very common.

Besides the principal square, there are two others very spacious, together with several that are smaller. In these the greatest part of the convents are situated, and make a handsome appearance ; the fronts and portals being adorned with all the embellishments of architecture, particularly the convent of the order of Franciscans, which, being wholly of free-stone, must have cost a prodigious sum ; and indeed the justness of the proportions,

proportions, the disposition of the parts, the elegant taste and execution of the work, render it equal to most of the admired buildings in Europe.

The principal houses are large; some of them have spacious and well-contrived apartments, though none are above one story in height, which is seldom without a balcony toward the street; but their doors and windows, particularly those within, are very low and narrow, following in these particulars the old custom of the Indians, who constantly built their houses among breaches and inequalities, and were also careful to make the doors very narrow. The Spaniards plead in defence of this custom, that the apartments are freer from wind; but be that as it may, I am inclined to think that this peculiarity owed its origin to a blind imitation of the Indians.

The materials made use of in building at Quito are adobes, or unburnt bricks, and clay; and to the making of the former the earth is so well adapted, that they last a long time, provided they are defended from the rain. They are cemented or joined together by a certain substance called *sangagua*, a species of mortar of uncommon hardness, used by the ancient Indians for building houses and walls of all kinds, several remains being still to be seen near the city, and in many other parts of the kingdom, notwithstanding the remarkable inclemency of the weather; a sufficient proof of its strength and duration.

The city is divided into seven parishes, the Sagrario, St. Sebastian, St. Barbara, St. Roque, St. Mark, St. Prisca, and St. Blaize. The cathedral, besides the richness of its furniture, is splendidly adorned with tapestry hangings and other costly decorations; but in this respect the other parish-churches are so mean as to have scarce necessaries for performing divine worship. Some of them are without pavement, and with every other mark of poverty. The chapel del Sagrario is very large, wholly of stone, and its architecture executed in an elegant taste; nor is the disposition of the inside inferior to the beauty of its external appearance.

The convents of monks in Quito are those of the Augustines, Dominicans, and the Fathers of Mercy, which are the heads of provinces; but besides these, there is another of Franciscan Recollects, another of Dominicans, and another of the Fathers of Mercy. In this city is also a college of Jesuits; two colleges for seculars, one called St. Lewis, of which the Jesuits have the direction; and the other St. Ferdinand, and is under the care of the Dominicans. In the first are twelve royal exhibitions for the sons of auditors and other officers of the crown. It has also an university under the patronage of St. Gregory. That of the second is a royal foundation, and dedicated to St. Thomas; the salaries of the professors are paid by the crown. Some of the chairs in this college are filled by graduates, as those appropriated to the canon and civil law, and physic; but the latter has been long vacant for want of a professor, though the degrees would be dispensed with. The Franciscan convent has a college, called San Buena Ventura, for the religious of its order; and, though under the same roof with the convent, has a different government and economy.

Quito has also several nunneries, as that of the Conception, the orders of St. Clare, St. Catharine, and two of bare-footed Theresiens. Of these one was originally founded in the town of Latacunga; but having, together with the place itself, been destroyed by an earthquake, the nuns removed to Quito, where they have ever since continued.

The college of Jesuits, as well as all the convents of monks, are very large, well built, and very splendid. The churches also, though the architecture of some is not modern, are spacious, and magnificently decorated, especially on solemn festivals, when it is amazing to behold the vast quantities of wrought plate, rich hangings, and costly ornaments, which heighten the solemnity of worship, and increase the reputation of these churches for magnificence. If those of the nunneries do not, on those occasions, exhibit

such

such an amazing quantity of riches, they exceed them in elegance and delicacy. It is quite otherwise in the parish-churches, where poverty is conspicuous, even on the most solemn occasions ; though this is partly imputed to those who have the care of them.

Here is also an hospital, with separate wards for men and women ; and though its revenues are not large, yet by a proper economy they are made to answer all the necessary expences. It was formerly under the direction of particular persons of the city, who, to the great detriment of the poor, neglected their duty, and some even embezzled part of the money received : but it is now under the care of the order of our Lady of Bethlehem, and by the attention of these fathers, every thing has put on a different aspect, the whole convent and infirmary having been rebuilt, and a church erected, which, though small, is very beautiful and finely decorated.

This order of our Lady of Bethlehem has been lately founded under the name of a congregation, and had its origin in the province of Guatemala. The name of the founder was Pedro de San Joseph Betaneur, a native of the town of Chafna (or Villa Fuerte) on the island of Teneriffe, in the year 1626. After his death, which happened in the year 1667, his congregation was approved of by a bull of Clement X. dated the 16th of May 1672, and still more formally in another of 1674. In 1687, Innocent XI. erected it into a community of regulars, since when it has begun to increase in these countries as a religious order. It had indeed before passed from Guatemala to Mexico, and from thence, in the year 1671, to Lima, where the fathers had the care of the hospital del Carmen. In the city of St. Miguel de Piura, they took possession of the hospital of St. Ann in the year 1678, and that of St. Sebastian in Truxillo in 1680 ; and their probity and diligence in discharging these trusts induced other places to select them as directors of their hospitals, and among the rest the city of Quito ; where, notwithstanding they have been only a few years, they have repaired all former abuses, and put the hospital on a better footing than it had ever known before.

The fathers of this order go bare-footed, and wear a habit of a dark-brown colour, nearly resembling that of the Capuchins, which order they also imitate in not shaving their beards. On one side of their cloak is an image of our Lady of Bethlehem. Every sixth year they meet to choose a general, which ceremony is performed alternately at Mexico and Lima.

Among the courts, whose sessions are held at Quito, the principal is that of the Royal Audience, which was established there in the year 1563, and consists of a president (who is also governor of the province with regard to matters of law), four auditors, who are at the same time civil and criminal judges, and a royal fiscal, so called, as, besides the causes brought before the Audience, he also takes cognizance of every thing relating to the revenue of the crown. Besides this, there is also another fiscal, called Protector de los Indios (Protector of the Indians), who solicits for them, and when injured pleads in their defence. The jurisdiction of this court extends to the utmost limits of the province, with no other appeal than to the Council of the Indies, and this only in case of a rejection of a petition, or flagrant injustice.

The next is the Exchequer, or chamber of finances, the chief officers of which are an accomptant, a treasurer, and a royal fiscal. The revenues paid into the receipt of this court are, the tributes of the Indians of this jurisdiction and those of Otabalo, Villa de San Miguel de Ibara, Latacunga, Chimbo, and Riobamba ; as also the taxes levied in those parts, and the produce of the customs at Babahoyo, Yaquache, and Caracol : which sums are annually distributed, partly to Carthagena and Santa Martha, for paying the salaries of the presidents, fiscals, corregidors, together with the stipends of the priests,

priests, and the governors of Maynas and Quijos ; partly for the officers of the Com-mandries, and partly for the caciques of the villages.

The Tribunal de Cruzada, or Croisade, has a commissary, who is generally some dig-nitary of the church ; and a treasurer, who is also the accomptant, through whose hands every thing passes relating to the Croisade.

Here is also a treasury for the effects of persons deceased ; an institution long since established all over the Indies, for receiving the goods of those whose lawful heirs were in Spain, that thus they might be secured from those accidents to which, from dishonesty or negligence, they would be liable in private hands, and securely kept for the persons to which they belong : an institution originally very excellent, but now greatly abused, great defalcations being made in the estates before they are restored to their proper owners.

Besides these tribunals, here is a commissary of the inquisition, with an alguazil major, and familiars appointed by the holy office at Lima.

The Corporation consists of a corregidor, two ordinary alcaldes chosen annually, and regidores. These superintend the election of the alcaldes, which is attended with no small disturbance in this city, persons of all ranks being divided into the two parties of Creoles, and Europeans or Chapitones, to the great detriment of private repose and so-ciability. This assembly also nominates the alcalde major of the Indians, who must be a governor of one of the Indian towns within five leagues of the city, and has under him other inferior alcaldes, for the civil government of it ; and this alcalde major, together with the others, are little more than the alguazils, or officers of the corregidor or ordi-nary alcaldes of the city, though at first they were invested with much greater power. Besides these, here are others called alcaldes de harrieros, whose business it is to provide mules, &c. for travellers ; and though all these are subordinate to the alcalde major, yet he has very little authority over them.

The cathedral chapter consists of the bishop, dean, archdeacon, chanter, treasurer, a doctoral, a penitentiary, a magistral, three canons by presentation, four prebends, and two demi-prebends, with the following revenues. That of the bishop 24,000 dol-lars ; the dean 2,500 ; the four succeeding dignities 2,000 each ; the canons 1,500 each ; the prebends 600, and the demi-prebends 420. This church was erected into a cathedral in the year 1545, and, among other festivals, are celebrated in it, with amaz-ing magnificence, those of Corpus Christi, and the Conception of our Lady, when all the courts, offices, and persons of eminence, never fail to assist. But the singular pomp of the procession of the host in the former, and the dances of the Indians, must not be omitted. Every house of the streets through which it passes are adorned with rich hang-ings ; and superb triumphal arches are erected, with altars at stated distances, and higher than the houses, on which, as on the triumphal arches, the spectator sees with admiration immense quantities of wrought plate, and jewels, disposed in such an elegant manner as to render the whole even more pleasing than the astonishing quantity of riches. This splendor, together with the magnificent dresses of the persons who assist at the procession, render the whole extremely solemn, and the pomp and decorum are both continued to the end of the ceremony.

With regard to the dances, it is a custom, both among the parishes of Quito and all those of the mountains, for the priest, a month before the celebration of the feasts, to select a number of Indians who are to be the dancers. These immediately begin to practise the dances they used before their conversion to christianity. The music is a pipe and tabor, and the most extraordinary of their motions some awkward capers ; in short, the whole is little to the taste of an European. Within a few days of the solem-nity,

nity, they dress themselves in a doublet, a shirt, and a woman's petticoat, adorned in the finest manner possible. Over their stockings they wear a kind of pinked buskins, on which are fastened a great number of bells. Their head and face they cover with a kind of mask, formed of ribbands of several colours. Dressed in this fantastical garb, they proudly call themselves angels, unite in companies of eight or ten, and spend the whole day in roving about the streets, highly delighted with the jingling of their bells; and frequently stop and dance, to gain the applauses of the ignorant multitude, who are strangers to elegant dancing. But what is really surprising, is, that without any pay, or view of interest, unless they think it a religious duty, they continue this exercise a whole fortnight before the grand festival, and a month after it, without minding either their labour or their families; rambling about, and dancing the whole day, without being either tired or disgusted, though the number of their admirers daily decrease, and the applause is turned into ridicule.

The same dress is worn by them in other processions, and at the bull-feasts, when they are excused from labour, and therefore highly pleased with them.

The corporation and cathedral chapter keep, by vow, two annual festivals in honour of two images of the Virgin, which are placed in the villages of Guapulo and Quinche, belonging to this jurisdiction. They are brought with great solemnity to Quito, where a festival is celebrated, with great magnificence and rejoicing, and is succeeded by nine days' devotion, the Audience and other courts assisting at the festival. The statues are afterwards returned with the same solemnity to their respective churches, the first of which is one league from Quito, and the other six. These festivals are held in commemoration of the mercy and assistance vouchsafed by the Holy Virgin at the time of an earthquake and terrible ejections from Pichincha, by which Latacunga, Hambato, and a great part of Riobamba, were utterly destroyed; while the prayers offered up at Quito to the holy Virgin, induced her to interpose in so singular a manner, that not the least misfortune attended this city, though apparently in equal danger with those which suffered.

## CHAP. V. — *Of the Inhabitants of Quito.*

THIS city is very populous, and has, among its inhabitants, some families of high rank and distinction; though their number is but small considering its extent, the poorer class bearing here too great a proportion. The former are the descendants either of the original conquerors, or of presidents, auditors, or other persons of character, who at different times came over from Spain invested with some lucrative post, and have still preserved their lustre, both of wealth and descent, by intermarriages, without intermixing with meaner families though famous for their riches.

The commonalty may be divided into four classes; Spaniards or Whites, Mestizos, Indians or Natives, and Negroes, with their progeny. These last are not proportionally so numerous as in the other parts of the Indies; occasioned by its being something inconvenient to bring Negroes to Quito, and the different kinds of agriculture being generally performed by Indians.

The name of Spaniard here has a different meaning from that of Chapitone or European, as properly signifying a person descended from a Spaniard without a mixture of blood. Many Mestizos, from the advantage of a fresh complexion, appear to be Spaniards more than those who are so in reality; and from only this fortuitous advantage are

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accounted as such. The Whites, according to this construction of the word, may be considered as one-sixth part of the inhabitants.

The Mestizos are the descendants of Spaniards and Indians, and are to be considered here in the same different degrees between the Negroes and Whites, as before at Carthagena; but with this difference, that at Quito the degrees of Mestizos are not carried so far back; for, even in the second or third generations, when they acquire the European colour, they are considered as Spaniards. The complexion of the Mestizos is swarthy and reddish, but not of that red common in the fair Mulattos. This is the first degree, or the immediate issue of a Spaniard and Indian. Some are, however, equally tawny with the Indians themselves, though they are distinguished from them by their beards: while others on the contrary, have so fine a complexion that they might pass for Whites, were it not for some signs that betray them, when viewed attentively. Among these, the most remarkable is the lowness of the forehead, which often leaves but a small space between their hair and eye-brows; at the same time the hair grows remarkably forward on the temples, extending to the lower part of the ear. Besides, the hair itself is harsh, lank, coarse, and very black; their nose very small, thin, and has a little rising on the middle, from whence it forms a small curve, terminating in a point, bending towards the upper lip. These marks, besides some dark spots on the body, are so constant and invariable, as to make it very difficult to conceal the fallacy of their complexion. The Mestizos may be reckoned a third part of the inhabitants.

The next class is the Indians, who form about another third; and the others, who are about one-sixth, are the Casts. These four classes, according to the most authentic accounts taken from the parish register, amount to between 50 and 60,000 persons, of all ages, sexes, and ranks. If among these classes the Spaniards, as is natural to think, are the most eminent for riches, rank, and power, it must at the same time be owned, however melancholy the truth may appear, they are in proportion the most poor, miserable and distressed; for they refuse to apply themselves to any mechanical business, considering it as a disgrace to that quality they so highly value themselves upon, which consists in not being black, brown, or of a copper-colour. The Mestizos, whose pride is regulated by prudence, readily apply themselves to arts and trades, but chuse those of the greatest repute, as painting, sculpture, and the like, leaving the meaner sort to the Indians. They are observed to excel in all, particularly painting and sculpture; in the former a Mestizo, called Miguel de Santiago, acquired great reputation, some of his works being still preserved and highly valued, while others were carried even to Rome, where they were honoured with the unanimous applauses of the virtuosi. They are remarkably ready and excellent at imitation, copying being indeed best adapted to their phlegmatic genius. And what renders their exquisite performances still more admirable, is, that they are destitute of many of the instruments and tools requisite to perform them with any tolerable degree of accuracy. But, with these talents, they are so excessively indolent and slothful, that, instead of working, they often loiter about the streets during the whole day. The Indians, who are generally shoemakers, bricklayers, weavers, and the like, are not more industrious. Of these the most active and tractable are the barbers and phlebotomists, who in their respective callings, are equal to the most expert hands in Europe. The shoemakers, on the other hand, distinguish themselves by such supineness and sloth, that very often you have no other way left to obtain the shoes you have bespoke, than to procure materials, seize on the Indian, and lock him up till they are finished. This is indeed partly owing to a wrong custom of paying for the work before it is done; and when the Indian has

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once got the money, he spends it all in chicha \*, so that while it lasts he is never sober ; and it is natural to think that it will not be easy afterwards to prevail on him to work for what he has spent.

The dress here differs from that used in Spain, but less so with the men than of the women. The former, who wear a black cloak, have under it a long coat, reaching down to their knees, with a close sleeve, open at the sides, without folds ; and along the seams of the body, as well as those of the sleeves, are button-holes, and two rows of buttons, for ornament. In every other particular, people of fortune affect great magnificence in their dress, wearing very commonly the finest gold and silver tissues.

The Mestizos in general wear blue cloth, manufactured in this country. And though the lowest class of Spaniards are very ambitious of distinguishing themselves from them, either by the colour or fashion of the clothes, little difference is to be observed.

The most singular dress, with regard to its meanness, is that of the Indians, which consists only of white cotton drawers, made either from the stuffs of the country, or from others brought from Europe. They come down to the calf of the leg, where they hang loose, and are edged with a lace suitable to the stuff. The use of a shirt is supplied by a black cotton frock, wove by the natives. It is made in the form of a sack, with three openings at the bottom, one in the middle for the head, and the others at the corners for the arms, and thus cover their naked bodies down to the knees. Over this is a capifayo, a kind of serge cloak, having a hole in the middle for putting the head through, and a hat made by the natives. This is their general dress, and which they never lay aside, not even while they sleep. And use has so inured them to the weather, that without any additional clothing or covering for their legs or feet, they travel in the coldest parts with the same readiness as in the warmest.

The Indians who have acquired some fortune, particularly the barbers and phlebotomists, are very careful to distinguish themselves from their countrymen, both by the fineness of their drawers, and also by wearing a shirt, though without sleeves. Round the neck of the shirt they wear a lace four or five fingers in breadth, hanging entirely round like a kind of ruff or band. One favourite piece of finery is silver or gold buckles for their shoes ; but they wear no stockings or other coverings on their legs. Instead of the mean capifayo, they wear a cloak of fine cloth, and often adorned with gold or silver lace.

The dress of the ladies of the first rank consists of a petticoat already described in our account of Guayaquil. On the upper parts of their body they wear a shift, on that a loose jacket laced, and over all a kind of bays, but made into no form, being worn just as cut from the piece. Every part of their dress is, as it were, covered with lace ; and those which they wear on days of ceremony are always of the richest stuffs, with a profusion of ornaments. Their hair is generally made up in tresses, which they form into a kind of cross, on the nape of the neck ; tying a rich ribband, called balaca, twice round their heads, and with the ends form a kind of rose at their temples. These roses are elegantly intermixed with diamonds and flowers. When they go to church, they sometimes wear a full petticoat ; but the most usual dress on these occasions is the veil.

The Mestizo women affect to dress in the same manner as the Spanish, though they cannot equal them in the richness of their stuffs. The meaner sort go barefooted. Two kinds of dresses are worn by the Indian women ; but both of them made in the same plain manner with those worn by the men : the whole consisting of a short petticoat, and a veil of American bays. The dress of the lowest class of Indian women is in effect

\* A kind of beer or ale made of maize, and very intoxicating.

only a bag of the same make and stuff as the frocks of the men, and called Anaco. This they fasten on the shoulders with two large pins, called Tupu or Topo. The only particular in which it differs from the frock is, that it is something longer, reaching down to the calf of the leg, and fastened round the waist with a kind of girdle. Instead of a veil, they wear about their neck a piece of the same coarse stuff dyed black, and called Lliella; but their arms and legs are wholly naked. Such is the habit with which the lower class of Indian women are contented.

The caciqueſſes, or Indian women, who are married to the alcaldes majors, governors, and others, are careful to diſtinguiſh themſelves from the common people by their habits, which is a mixture of the two former, being a petticoat of bays adorned with ribbands; over this, inſtead of the anaco, they wear a kind of black manteau, called Aſco. It is wholly open on one ſide, plaited from top to bottom, and generally faſtened round the waſt with a girdle. Inſtead of the ſcanty lliella which the common Indian women wear hanging from their ſhoulders, theſe appear in one much fuller, and all over plaited, hanging down from the back part of their head almoſt to the bottom of the petticoat. This they faſten before with a large ſilver bodkin, called alſo Tupu, like thoſe uſed in the anaco. Their head-dreſs is a piece of fine linen curiouſly plaited, and the end hanging down behind: this they call Colla, and is worn both for diſtinction and ornament, and to preſerve them from the heat of the ſun; and thoſe ladies, that their ſuperiority may not be called in queſtion, never appear abroad without ſhoes. This dreſs, together with that univerſally worn by Indians, men and women, is the ſame with that uſed in the time of the Yncas, for the propriety of diſtinguiſhing the ſeveral claſſes. The Caciques at preſent uſe no other than that of the more wealthy Meſtizos, namely, the cloak and hat; but the ſhoes are what chiefly diſtinguiſh them from the common Indians.

The men, both Creoles and Spaniards, are well made, of a proper ſtature, and of a lively and agreeable countenance. The Meſtizos in general are alſo well made, often taller than the ordinary ſize, very robuſt, and have an agreeable air. The Indians, both men and women, are generally low, but well proportioned, and very ſtrong; though more natural defects are to be obſerved among them than in the other claſſes of the human ſpecies: ſome are remarkably ſhort, ſome ideots, dumb and blind, and others deficient in ſome of their limbs. Their hair is generally thick and long, which they wear looſe on their ſhoulders, never tying or tucking it up, even when they go to ſleep. But the Indian women plait theirs behind with ribband, and the part before they cut a little above the eye-brows from one ear to another; which form of hair they call Urcu, and are ſo fond of this natural ornament, that the greateſt affront poſſible to be offered to an Indian of either ſex, is to cut off their hair; for whatever corporal puniſhment their maſters think proper to inflict on them, they bear with a dutiful tranquillity; but this is a diſgrace they never forgive; and accordingly it was found neceſſary for the government to interpoſe, and limit this puniſhment to the moſt enormous crimes. The colour of their hair is generally a deep black; it is lank, harſh, and coarſe as that of horſes. The Meſtizos, on the other hand, by way of diſtinguiſhing themſelves from the Indians, cut off their hair; but the women do not in this reſpect follow the example of their huſbands. The Indians have no beard; and the greateſt alteration occaſioned by their arriving at the years of maturity, is only a few ſtraggling hairs on the chin, but ſo ſhort and thin as never to require the aſſiſtance of the razor; nor have either males or females any indications of the age of puberty.

The youths of family are here inſtructed in philoſophy and divinity, and ſome proceed to the ſtudy of the civil law, but follow that profeſſion with reluctance. In theſe ſciences

sciences they demonstrate a great deal of judgment and vivacity, but are very deficient in historical and political knowledge, as well as other sciences, which improve the human understanding, and carry it to a certain degree of perfection not otherwise attainable. This is, however, their misfortune, not their fault; being owing to the want of proper persons to instruct them; for with regard to those who visit this country on commercial affairs, their minds have generally another turn, and their whole time is devoted to acquire riches. Thus after seven or eight years of scholastic instruction, their knowledge is very limited; though endowed with geniuses capable of making the greatest progress in the sciences.

In the women of rank here, their beauty is blended with a graceful carriage and an amiable temper; qualities indeed common to the whole sex in this part of America. Their children are always educated under their own eyes, though little to their advantage, their extreme fondness preventing them from seeing those vices which so often bring youth to ruin and infamy; nor is it uncommon for them to endeavour to hide the vices of the son from the knowledge of the father; and in case of detection, to interpose passionately in defence of their favourite, in order to prevent his being properly corrected.

This country is observed to abound more in women than men; a circumstance the more remarkable, as those causes which in Europe induce men to leave their country, namely, travelling, commerce, and war, can hardly be said to subsist here. Numbers of families may be found in this country, that have a great variety of daughters, but not one son among them. Nature also in the male sex, especially those who have been tenderly brought up, begins to decay at the age of thirty; whereas the females rather enjoy a more confirmed state of health and vigour. The cause of this may, in a great measure, be owing to the climate; food may also contribute to it; but the principal cause, I make no doubt, is their early intemperance and voluptuousness; this debilitates the stomach, so that the organs of digestion cannot perform their proper office; and accordingly many constantly eject their victuals an hour or two after their meals. Whether this be owing to a custom now become natural, or forced, the day they fail of such ejection, they are sure to find themselves indisposed. But amidst all their weaknesses and indispositions they live the general time, and many even arrive at a very advanced age.

The only employment of persons of rank, who are not ecclesiastics, is from time to time to visit their estates or chacaras, where they reside during the time of harvest; but very few of them ever apply themselves to commerce, indolently permitting that lucrative branch to be possessed entirely by the Chapitones or Europeans, who travel about the country, and pursue their interest with great assiduity. Within the city, however, some few Creoles and Mestizos so far overcome their indolent dispositions as to keep shops.

The want of proper employments, together with the sloth so natural to the inhabitants of this country, and the great neglect of education in the common people, are the natural parents of that fondness so remarkable in these parts for balls and entertainments; and these at Quito are both very frequent, and carried to such a degree of licentiousness and audacity, as cannot be thought of without detestation; not to mention the many tumults and quarrels which thence derive their origin. But such brutality may be considered as the natural consequence of the rum and chicha, which on these occasions are drunk in enormous quantities. It must, however, be remembered, that no person of any rank or character is even seen at these meetings, their festivity being conducted with the strictest decency and decorum.

Rum is commonly drunk here by persons of all ranks, though very moderately by those of fashion; particularly at entertainments, when it is made into a kind of cordial. They prefer it to wine, which they say disagrees with them. The Chapitones also accustom themselves to this liquor; wine, which is brought from Lima, being very scarce and dear. Their favourite liquor is brandy, brought also from Lima, and is less inflammative than rum. The disorders arising from the excessive use of spirituous liquors are chiefly seen among the Mestizos, who are continually drinking while they are masters of any money. The lower class of women, among the Creoles and Mestizos, are also addicted to the same species of debauchery, and drink excessively.

Another common liquor in this country is the mate, which answers to tea in the East Indies, though the method of preparing and drinking it is something different. It is made from an herb, which, in all these parts of America is known by the name of Paraguay, as being the produce of that country. Some of it is put into a calabash tipped with silver, called here Mate or Totumo, with a sufficient quantity of sugar, and some cold water, to macerate it. After it has continued in this manner some time, the calabash is filled with boiling water, and the herb being reduced to a powder, they drink the liquor through a pipe fixed in the calabash, and having a strainer before the end of it. In this manner the calabash is filled several times with water and fresh supplies of sugar, till the herb subsides to the bottom, a sufficient indication that a fresh quantity is wanting. It is also usual to squeeze into the liquor a few drops of the juice of lemons or Seville oranges, mixed with some perfumes from odoriferous flowers. This is their usual drink in the morning fasting, and many use it also as their evening regale. I have nothing to object against the salubrity and use of this liquor; but the manner of drinking it is certainly very indelicate, the whole company drinking successively through the same pipe. Thus the mate is carried several times round the company, till all are satisfied. The Chapitones make very little use of it; but among the Creoles it is the highest enjoyment; so that even when they travel, they never fail to carry with them a sufficient quantity of it. This may indeed be owing in some measure to the dispatch and facility with which it is prepared; but till they have taken their dose of mate, they never eat.

There is no vice to which idleness is not a preliminary; nor is sloth ever unaccompanied with some vice or other. What must then be the state of morality in a country where the greatest part of the people have no work, employment, or calling, to occupy their thoughts; nor any idea of intellectual entertainment? The prevalence of drunkenness has been already mentioned, and the destructive vice of gaming is equally common. But in the latter, persons of rank and opulence, whose example is always followed, have led the way; and their inferiors have universally followed in their destructive paths, to the ruin of families, and the breach of conjugal affection; some losing their stocks in trade, others the very clothes from their backs, and afterwards those belonging to their wives, risking the latter to recover their own. This propensity in the Indians for gaming has by some been imputed to causes, in which I can perceive no manner of relation. To me it plainly appears owing to the leisure of some, who know not how to spend their time, and to the natural sloth and idleness of others.

The common people and Indians are greatly addicted to theft, in which it must be owned they are very artful and dextrous. The domestics also, cannot be said to be entirely free from this fault, which is attended with the inconvenience of reserve and suspicion on the part of their master. The Mestizos do not want for audacity in any kind of theft or robbery, though in themselves arrant cowards. Thus, even at an unseasonable hour, they will not venture to attack any one in the street; but their

common practice is, to snatch off the person's hat, and immediately seek their safety in their flight; so that, before the person robbed can recover himself, the thief is out of sight. However trifling this may seem, yet sometimes the capture is very considerable; the hats generally worn by persons of any rank, and even by the wealthy citizens when dressed in their cloaks, are of white beaver, and of themselves worth fifteen or twenty dollars, or more, of the Quito currency, besides a hatband of gold or silver-lace, fastened with a gold buckle set with diamonds or emeralds. It is very rare that any such thing as a robbery on the highway is heard of; and even these may be rather accounted housebreaking, as they are either committed by the carriers themselves or their servants. In order to execute their most remarkable pieces of villany within the city, they set fire, during the darkness of the night, to the doors of such shops or warehouses, where they flatter themselves with the hopes of finding some specie; and having made a hole sufficiently large for a man to creep through, one of them enters the house, while the others stand before the hole to conceal their accomplice, and to receive what he hands out to them. In order to prevent such practices, the principal traders are at the expence of keeping a guard, which patrols all night through the streets where attempts of this kind are most to be apprehended; and thus the shops are secured; for, in case any house or shop is broke open, the commander of the guard is obliged to make good the damage received.

Neither the Indians, Mestizos, nor any of the lowest class of people, think the taking any eatables a robbery; and the Indians have a particular rule of conduct in their operations, namely, if one of them happens to be in a room where there are several vessels of silver, or other valuable effects, he advances slowly, and with the utmost circumspection, and usually takes only one piece, and that the least valuable, imagining that it will not be so soon missed as if he had taken one of greater price. If detected in the fact, he resolutely denies it, with a *yanga*, a very expressive word in his language, and now often used by the Spaniards of this country, signifying that it was done without any necessity, without any profit, without any bad intention. It is indeed a word of such extent in disculpating, that there is no crime to which it is not applicable with regard to the acquittal of the delinquent. If he has not been seen in the very fact, be the circumstances ever so plain against him, the theft can never be ascertained, no Indian having ever been known to confess.

In Quito, and in all the towns and villages of its province, different dialects are spoken, Spanish being no less common than the Inga. The Creoles, in particular, use the latter equally with the former; but both are considerably adulterated with borrowed words and expressions. The first language generally spoken by children is the Inga; the nurses being Indians, many of whom do not understand a word of Spanish. Thus, the children being first used to the Indian pronunciation, the impression is so strong on their minds, that few can be taught to speak the Spanish language before they are five or six years old; and the corruption adheres so strongly to them, that they speak a jargon composed of both; an impropriety which also gains ground among the Europeans, and even persons of rank, when once they begin to understand the language of the country. But what is still more inconvenient, they use improper words; so that a Spaniard himself, not accustomed to their dialect, has often need of an interpreter.

The sumptuous manner of performing the last offices to the dead, mentioned in the description of Carthagená, is frugal and simple, if compared to that used at Quito and all its jurisdiction. Their ostentation is so enormous in this particular, that many families of credit are ruined by a preposterous emulation of excelling others. The inhabitants may therefore be properly said to toil, scheme, and endure the greatest labour and fatigue,

fatigue, merely to enable their successors to bury them in a pompous manner. The deceased must have died in very mean circumstances indeed, if all the religious communities, together with the chapter of the cathedral, are not invited to his funeral, and during the procession the bells tolled in all the churches. After the body is committed to the earth, the obsequies are performed in the same expensive manner, besides the anniversary which is solemnized at the end of the year. Another remarkable instance of their vanity is, never to bury in their own parish church; so that any one seen to be buried in that manner may be concluded to have been of the lowest class, and to have died wretchedly poor. The custom of making an offering either at the obsequies or anniversary, is still observed, and generally consists of wine, bread, beasts, or fowls, according to the ability or inclination of the survivor.

Though Quito cannot be compared to the other cities in these parts for riches, yet it is far removed from poverty. It appears from several particulars, to have been in a much more flourishing state; but at present, though it has many substantial inhabitants, yet few of them are of distinguished wealth, which, in general, consists in landed estates, applied to several uses, as I shall show in the sequel. Here are also no very splendid fortunes raised by trade. Consequently it may be inferred, that the city is neither famous for riches, nor remarkable for poverty. Here are indeed considerable estates, though their produce is not at all equal to their extent: but the commerce, though small, is continual. It must also be observed, to the credit of this city, that the more wealthy families have large quantities of plate, which is daily made use of; and indeed, through the several classes, their tables are never destitute of one piece of plate at least.

CHAP. VI. — *Of the Temperature of the Air at Quito; Distinction between Winter and Summer; Inconveniences, Advantages, and Distempers.*

TO form a right judgment of the happy temperature of the air of Quito, experience must be made use of, to correct the errors which would arise from mere speculation; as without that unerring guide, or the information of history, who would imagine, that in the centre of the torrid zone, or rather under the equinoctial, not only the heat is very tolerable, but even, in some parts, the cold painful; and that others enjoy all the delights and advantages of a perpetual spring, their fields being always covered with verdure, and enamelled with flowers of the most lively colours! The mildness of the climate, free from the extremes of cold and heat, and the constant equality of the nights and days, render a country pleasant and fertile, which uninformed reason would, from its situation, conclude to be uninhabitable: Nature has here scattered her blessings with so liberal a hand, that this country surpasses those of the temperate zones, where the vicissitudes of winter and summer, and the change from heat to cold, cause the extremes of both to be more sensibly felt.

The method taken by Nature to render this country a delightful habitation, consists in an assemblage of circumstances, of which, if any were wanting, it would either be utterly uninhabitable, or subject to the greatest inconveniences. But by this extraordinary assemblage, the effect of the rays of the sun is averted, and the heat of that glorious planet moderated. The principal circumstance in this assemblage is its elevated situation above the surface of the sea; or, rather, of the whole earth; and thus, not only the reflection of the heat is diminished, but by the elevation of this country, the winds are more subtle, congelation more natural, and the heat abated. These are such

natural

natural effects as must doubtless be attributed to its situation; and is the only circumstance from whence such prodigies of nature, as are observed here, can proceed. In one part are mountains of a stupendous height and magnitude, having their summits covered with snow; on the other, volcanoes flaming within, while their summits, chasms, and apertures, are involved in ice. The plains are temperate; the breaches and valleys hot; and, lastly, according to the disposition of the country, its high or low situation, we find all the variety of gradations of temperature, possible to be conceived between the two extremes of heat and cold.

Quito is so happily situated, that neither the heat nor cold is troublesome, though the extremes of both may be felt in its neighbourhood; a singularity sufficiently demonstrated by the following thermometrical experiments. On the 31st of May 1736, the liquor in the thermometer stood at 1011; at half an hour after twelve at noon, at 1014; on the first of June, at six in the morning, at 1011; and, at noon, at 1012½. But what renders this equality still more delightful, is, that it is constant throughout the whole year, the difference between the seasons being scarce perceptible. Thus the mornings are cool, the remainder of the day warm, and the nights of an agreeable temperature. Hence the reason is plain, why the inhabitants of Quito make no difference in their dress during the whole year; some wearing silks or light stuffs, at the same time others are dressed in garments of substantial cloth; and the former as little incommoded by the cold as the latter are by heat.

The winds are healthy, and blow continually, but never with any violence. Their usual situations are north and south, though they sometimes shift to other quarters, without any regard to the season of the year. Their incessant permanence, notwithstanding their constant variations, preserves the country from any violent or even disagreeable impressions of the rays of the sun. So that, were it not for some inconveniences to which this country is subject, it might be considered as the most happy spot on the whole earth. But when these disagreeable incidents are considered, all its beauties are buried in obscurity; for here are dreadful and amazing tempests of thunder and lightning, and the still more destructive subterraneous earthquakes, which often surprise the inhabitants in the midst of security. The whole morning, till one or two in the afternoon, the weather is generally extremely delightful; a bright sun, serene and clear sky, are commonly seen; but afterwards the vapours begin to rise, the whole atmosphere is covered with black clouds, which bring on such dreadful tempests of thunder and lightning, that all the neighbouring mountains tremble, and the city too often feels their dreadful effects. Lastly, the clouds discharge themselves in such impetuous torrents of rain, that in a very short time the streets appear like rivers, and the squares, though situated on a slope, like lakes. This dreadful scene generally continues till near sun-set, when the weather clears up, and Nature again puts on the beautiful appearance of the morning. Sometimes, indeed, the rains continue all the night, and they have been known to last three or four days successively.

On the other hand, this general course of the weather has its exceptions, three, four, or six, or even eight fine days succeeding each other; though, after raining six or eight days in the manner above mentioned, it is rare that any falls during the two or three succeeding. But, from the most judicious observations, it may be concluded, that these intervals of fine or foul weather make up only one fifth of the days of the year.

The distinction of winter and summer consists in a very minute difference observable between the one and the other. The interval between the month of September, and April, May, or June, is here called the winter season; and the other months compose the summer. In the former season the rain chiefly prevails, and in the second the inhabit-

for above a fortnight, the inhabitants are in the utmost consternation, and public prayers are offered up for their return. On the other hand, when they continue any time without intermission, the like fears return, and the churches are again crowded with supplicants for obtaining fine weather. For a long drought here is productive of dangerous distempers; and a continual rain, without any intervals of sun-shine, destroys the fruits of the earth: thus the inhabitants are under a continual anxiety. Besides the advantages of the rains for moderating the intense rays of the sun, they are also of the greatest benefit in cleansing the streets and squares of the city, which by the filthiness of the common people at all hours, are every where full of ordure.

Earthquakes cannot be accounted a less terrible circumstance than any of the former; and if not so frequent as in other cities of these parts, they are far from being uncommon, and often very violent. While we continued in this city and its jurisdiction, I particularly remember two, when several county-seats and farm-houses were thrown down, and the greater part of the numerous inhabitants buried in ruins.

It is doubtless to some unknown quality of the temperature of the air, that the city owes one remarkable convenience, which cannot fail of greatly recommending it: namely, being totally free from moschitos or other insects of that kind, which almost render life a burthen in hot countries. They are not known to the inhabitants; even a flea is seldom seen here; nor are the people molested with venomous reptiles. In short, the only troublesome insect is the pique or nigua, whose noxious effects have been already treated of.

Though the plague or pestilence, in its proper sense, be not known here, no instance of its ravages having appeared in any part of America, yet there are some distempers which have many symptoms of it, but concealed under the names of malignant spotted fevers and pleurifies; and these generally sweep away such prodigious numbers, that, when they prevail, the city may with propriety be said to be visited with a pestilential contagion. Another disease common here is that called *mal del valle*, or *vicho*; a distemper so general, that, at the first attack of any malady, they make use of medicines adapted to the cure of it, from its usually seizing a person two or three days after a fever. But M. de Jussieu often observed, that the remedies were generally administered to persons not at all affected by the distemper, which, in his opinion, is a gangrene in the rectum; a disease very common in that climate, and consequently at the first attack all means should be used to prevent its progress. Persons who labour under a flux are most liable to that malady; but the inhabitants of this country being firmly persuaded that there can be no distemper that is not accompanied with the *vicho*, the cure is never delayed. The operation must be attended with no small pain, as a pessary, composed of gun-powder, Guinea-pepper, and a lemon peeled, is insinuated into the anus, and changed two or three times a day, till the patient is judged to be out of danger.

The venereal disease is here so common, that few persons are free from it, though its effects are much more violent in some than in others; and many are afflicted with it, without any of its external symptoms. Even little children, incapable by their age of having contracted it actively, have been known to be attacked in the same manner by it as persons who have acquired it by their debauchery. Accordingly there is no reason for caution in concealing this distemper, its commonness effacing the disgrace that in other countries attends it. The principal cause of its prevalence is, negligence in the cure. For the climate favours the operations of the medicines, and the natural temperature of the air checks the malignity of the virus more than in other countries. And hence few are salivated for it, or will undergo the trouble of a radical cure. This disease

disease must naturally be thought in some measure to shorten their lives; though it is not uncommon to see persons live seventy years or more, without ever having been entirely free from that distemper, either hereditary, or contracted in their early youth.

During the continuance of the north and north-east winds, which are the coldest from passing over the frosty deserts, the inhabitants are afflicted with very painful catarrhs, called *Pechugueras*. The air is then something disagreeable, the mornings being so cold as to require warmer clothing; but the sun soon disperses this inconvenience.

As the pestilence, whose ravages among the human species in Europe, and other parts, are so dreadful, is unknown both at Quito and throughout all America, so is also the madness in dogs. And though they have some idea of the pestilence, and call those diseases similar in their effects by that name, they are entirely ignorant of the canine madness; and express their astonishment when an European relates the melancholy effects of it. Those inhabitants, on the other hand, are here subject to a distemper unknown in Europe, and may be compared to the small-pox, which few or none escape; but having once got through it, they have nothing more to apprehend from that quarter. This distemper is one of those called *peste*; and its symptoms are convulsions in every part of the body, a continual endeavour to bite, delirium, vomiting blood; and those whose constitutions are not capable of supporting the conflicts of the distemper, perish. But this is not peculiar to Quito, being equally common throughout all South America.

#### CHAP. VII. — *Fertility of the Territories of Quito, and the common Food of its Inhabitants.*

THOUGH an account of the fruits should naturally succeed that of the climate, I determined, on account of their variety, and their being different in different parts, to defer a circumstantial description, till I come to treat more particularly of each of the jurisdictions. So that I shall here only take a transient view of the perennial beauty and pleasantness of the country; which has hardly its equal in any part of the known world: the equability of its air exempts it from any sensible changes, whereby the plants, corn, and trees, are stripped of their verdure and ornaments, their vegetative powers checked, and themselves reduced to a torpid inactivity. The fertility of this country, if fully described, would appear to many incredible, did not the consideration of the equality and benignity of the climate enforce its probability. For both the degrees of cold and heat are here so happily determined, that the moisture continues, and the earth seldom fails of being cherished by the fertilizing beams of the sun, some part of every day; and therefore it is no wonder that this country should enjoy a greater degree of fertility than those where the same causes do not concur; especially if we consider, that there is no sensible difference throughout the year; so that the fruits and beauties of the several seasons are here seen at the same time. The curious European observes, with a pleasing admiration, that whilst some herbs of the field are fading, others of the same kind are springing up; and whilst some flowers are losing their beauty, others are blowing, to continue the enamelled prospect. When the fruits have obtained their maturity, and the leaves begin to change their colour, fresh leaves, blossoms, and fruits, are seen in their proper gradations on the same tree.

The same incessant fertility is conspicuous in the corn, both reaping and sowing being carried on at the same time. That corn which has been recently sown is coming up;

up ; that which has been longer sown is in its blade, and the more advanced begins to blossom. So that the declivities of the neighbouring hills exhibit all the beauties of the four seasons at one single view.

Though all this is generally seen, yet there is a settled time for the grand harvest. But sometimes the most favourable season for sowing in one place, is a month or two after that of another, though their distance is not more than three or four leagues ; and the time for another at the same distance not then arrived. Thus, in different spots, sometimes in one and the same, sowing and reaping are performed throughout the whole year, the forwardness or retardment naturally arising from the different situations, as mountains, rising grounds, plains, valleys, and breaches ; and the temperature being different in each of these, the times for performing the several operations of husbandry must also differ. Nor is this any contradiction to what I have before advanced, as will be seen in the following account of the jurisdiction.

This remarkable fecundity of the soil is naturally productive of excellent fruits and corn of every kind, as is evident from the delicacy of the beef, veal, mutton, pork, and poultry of Quito. Here is also wheat bread in sufficient plenty ; but the fault is, that the Indian women, whose business it is to make it, are ignorant of the best methods both of kneading and baking it ; for the wheat of itself is excellent, and the bread baked in private houses equal to any in the known world. The beef, which is not inferior to that of Europe, is sold in the markets by the quarter of the hundred for four rials of that country money, and the buyer has the liberty of choosing what part he pleases. Mutton is sold either by the half or quarter of a sheep ; and when fat, and in its prime, the whole carcase is worth about five or six rials. Other species of provisions are sold by the lump, without weight or measure, and the price regulated by custom.

The only commodity of which there is here any scarcity is pulse ; but this deficiency is supplied by roots, the principal of which are the camates, arucachas, yucas, ocas, and papas ; the three former are the natives of hot countries, and cultivated in the plantations of sugar canes, and such spots are called vallies, or yungas, though these names have different senses, the former signifying plains in a bottom, and the latter those on the sides of the Cordillera ; but both in a hotter exposure. In these are produced the plantains, guinços, Guinea-pepper, chirimogas, aguacates, granadillas, pinas, guayabas, and others natural to such climates, as I have already observed in other countries. The colder parts produce pears, peaches, nectarines, quaitambos, aurimelos, apricots, melons, and water-melons ; the last have a particular season, but the others abound equally throughout the whole year. The parts which cannot be denominated either hot or cold, produce frutillas, or Peru strawberries, and apples. The succulent fruits, which require a warm climate, are in great plenty throughout the whole year, as China and Seville oranges, citrons, lemons, limes, cidras, and toronjas. These trees are full of blossoms and fruit all the year round, equally with those which are natives of this climate. These fruits abundantly supply the tables of the inhabitants, where they are always the first served up, and the last taken away. Besides the beautiful contrast they form with the other dishes, they are also used for increasing the pleasure of the palate, it being a custom among the people of rank here, to eat them alternately with their other food, of which there is always a great variety.

The chirimoyas, aguacates, guabas, granadillas, and Peruvian strawberries, being fruits of which, as well as of the ocas and papas, I have not yet given any description, I shall here give the reader a brief account of them. The chirimoya is universally allowed to be the most delicious of any known fruit either of India or Europe. Its

dimensions are various, being from one to five inches in diameter. Its figure is imperfectly round, being flattened towards the stalk; where it forms a kind of navel; but all the other parts nearly circular. It is covered with a thin soft shell, but adhering so closely to the pulp, as not to be separated without a knife. The outward coat, during its growth, is of a dark green, but on attaining its full maturity becomes somewhat lighter. This coat is variegated with prominent veins, forming a kind of network all over it. The pulp is white, intermixed with several almost imperceptible fibres, concentrating in the core, which extends from the hollow of the excrescence to the opposite side. As they have their origin near the former, so in that part they are larger and more distinct. The flesh contains a large quantity of juice resembling honey, and its taste sweet mixed with a gentle acid, but of a most exquisite flavour. The seeds are formed in several parts of the flesh, and are about seven lines in length, and three or four in breadth. They are also somewhat flat, and situated longitudinally.

The tree is high and tufted, the stem large and round, but with some inequalities; full of elliptic leaves, terminating in a point. The length is about three inches and a half, and the breadth two or two and a half. But what is very remarkable in this tree is, that it every year sheds and renews its leaves. The blossom, in which is the embryo of the fruit, differs very little from the leaves in colour, which is a darkish green; but when arrived to its full maturity is of a yellowish green. It resembles a caper in figure, but something larger, and composed of four petals. It is far from being beautiful; but this deficiency is abundantly supplied by its incomparable fragrance. This tree is observed to be very parsimonious in its blossoms, producing only such as would ripen into fruits, did not the extravagant passion of the ladies, for the excellence of the odour, induce them to purchase the blossoms at any rate.

The aguacate, which in Lima and other parts of Peru is known by the ancient Indian name Plata, may also be classed among the choicest fruits of this country. Its figure in some measure resembles the calabashes of which snuff-boxes are made; that is, the lower part is round, and tapers away gradually towards the stalk; from whence to its base the length is usually between three and five inches. It is covered with a very thin, glossy, smooth shell, which, when the fruit is thoroughly ripe, is detached from the pulp. The colour, both during its growth and when arrived at perfection, is green, but turns something paler as it ripens; the pulp is solid, but yields to the pressure of the finger; the colour white, tinged with green, and the taste so insipid as to require salt to give it an agreeable relish. It is fibrous, but some more so than others. The stone of this fruit is two inches long, one and a half in thickness, and terminates in a point. The taste is sour. It may be opened with a knife, and consists of two lobes, between which may be distinctly perceived the germ of the tree. Within the shell is a very thin tegument, which separates it from the pulp, though sometimes the tegument adheres to the pulp, and at other times to the shell. The tree is lofty and full of branches; the leaf, both in dimension and figure, something different from that of the chimoya.

In the province of Quito they give the name of guabas to a fruit, which, in all the other parts of Peru, is called by its Indian name Pacaes. It consists of a pod like that of the algarobo, a little flat on both sides. Its usual length is about a foot, though there are different sizes, some larger and some smaller, according to the country where they grow. Its outward colour is a dark green, and covered with a down, which feels smooth when stroked downwards, and rough when the hand is moved in the contrary direction, as in velvet. The pod, opened longitudinally, is found divided

divided into several cells, each containing a certain spongy medulla, very light, and equal to cotton in whiteness. In this are inclosed some black seeds of a very disproportionate size, the medulla, whose juice is sweet and cooling, not being above a line and a half in thickness round each seed.

The granadilla resembles a hen's egg in shape, but larger. The outside of the shell is smooth and glossy, and of a faint carnation colour, and the inside white and soft. It is about a line and a half in thickness, and pretty hard. This shell contains a viscous and liquid substance, full of very small and delicate grains less hard than those of the pomegranate. This medullary substance is separated from the shell, by an extreme fine and transparent membrane. This fruit is of a delightful sweetness, blended with acidity, very cordial and refreshing, and so wholesome that there is no danger in indulging the appetite. The two former are also of the same innocent quality. The granadilla is not the produce of a tree, but of a plant, the blossom of which resembles the passion-flower, \* and of a most delicate fragrance. But we must observe a remarkable singularity in the fruits of this country, namely, that they do not ripen on the trees, like those of Europe, but must be gathered and kept some time; for if suffered to hang on the trees they would decay.

The last of the fruits I shall mention is the frutilla, or Peru strawberry, very different from that of Europe in size; for though generally not above an inch in length, and two-thirds of an inch in thickness, they are much larger in other parts of Peru. Their taste, though juicy and not unpalatable, is not equal to those of Europe. The whole difference between the plant and that known in Spain consists in its leaves being somewhat larger.

The papas are natives of a cold climate; and being common in several parts of Europe, where they are known by the name of potatoes, all I shall say of them is, that they are a favourite food with the inhabitants of these countries, who eat them instead of bread, nor is there a made dish or ragout in which they are not an ingredient. The Creoles prefer them to any kind of meat, or even fowl. A particular dish is made of them, and served up at the best tables, called Locro; and is always the last, that water may be drank after it, which they look upon as otherwise unwholesome. This root is the chief food of the lower class; and they find it so nutritive and strengthening, that they are not desirous of more solid food.

The oca is a root about two or three inches in length, and about half an inch, or something more, in thickness, though not every where equal, having a kind of knots where they twist and wreath themselves. This root is covered with a very thin and transparent skin, whose colour is in some yellow, in some red, and others orange. It is eaten either boiled or roasted, and has nearly the same taste as a chestnut; with this difference, however, common to all the fruits of America, that the sweetness predominates. It is both pickled and preserved, the latter being what the Americans are very fond of. This root is also an ingredient in many made dishes. The plant is small, like the camote, yucas, and others already described.

With regard to the corn of this country, there is no necessity for enumerating the species, they being the same with those known in Spain. The maize and barley are used by the poor people, and particularly by the Indians, in making bread. They have several methods of preparing the maize; one is by parching, which they call Camea. They also make from this grain a drink called Chica, used by the Indians in

\* This is the identical passion-flower, which in England never bears any fruit, the climate being too cold. A.

the times of the Yncas, and still very common. The method of making it is this: they steep the maize in water till it begins to sprout, when they spread it in the sun, where it is thoroughly dried; after which they roast and grind it, and of the flour they make a decoction of what strength they please. It is then put into jars or casks, with a proportional quantity of water. On the second or third day it begins to ferment, and when that is completed, which is in two or three days more, they esteem it fit for drinking. It is reckoned very cooling; and that it is inebriating, is sufficiently evident from the Indians: those people have indeed so little government of themselves, that they never give over till they have emptied the cask. Its taste is not unlike cyder; but seems in some measure to require the dispatch of the Indians, turning four in seven or eight days after the fermentation is completed. Besides its supposed quality of being cooling, it is, among other medical properties, confessedly diuretic; and to the use of this liquor the Indians are supposed to be indebted for their being strangers to the stranguery or gravel. It is also not surprising that those people who drink it, without any other food than cancha, mote, and muchea, are, with the help of this liquor, healthy, strong, and robust.

Maize boiled till the grains begin to split, when it is called Mote, serves for food to the Indians, the poor people, and servants in families, who being habituated to it, prefer it to bread.

Maize, before it is ripe called Chogllos, is sold in the ear, and among the poorer sort of inhabitants esteemed a great dainty.

Besides the grains of the same species with those in Spain, this country has one peculiar to itself, and very well deserving to be ranked among the most palatable foods; but still more valuable for its being one of the preservatives against all kinds of abscesses and imposthumes. This useful species of grain, here called Quinoa, resembles a lentil in shape, but much less, and very white. When boiled it opens, and out of it comes a spiral fibre, which appears like a small worm, but whiter than the husk of the grain. It is an annual plant, being sowed and reaped every year. The stem is about three or four feet in height, and has a large pointed leaf, something like that of the malloro; the flower is of a deep red, and five or six inches in length, and in it are contained the grains or seed. The quinoa is eaten boiled like rice, and has a very pleasant taste; and the water in which it has been boiled, is often used as an apozem. The quinoa is used in external applications, in order to which it is ground and boiled to a proper consistence; and applied to the part affected, from which it soon extracts all corrupt humours occasioned by a contusion.

Besides domestic animals, here are great numbers of rabbits caught on the deserts. The partridges are not very plenty, and rather resemble a quail than those of Europe. Turtle-doves abound here, greatly owing to the indolence of the inhabitants in not endeavouring to take them.

But one of the principal foods used by the inhabitants is cheese, of which it is computed that the quantity annually consumed amounts to between seventy and eighty thousand dollars of that country money. It is used in various manners, and is the chief ingredient in many dishes. The neighbourhood of Quito also affords excellent butter, and of which there is a great consumption, but falls far short of that of cheese.

The fondness of these people for sweetmeats exceeds every thing I have ever mentioned of other countries; and this necessarily occasions a great consumption of sugar and honey. One method of indulging this appetite is, to squeeze the juice out of the sugar canes, let it settle, and curdle it, out of which they make small cakes, which they call raspaduras. This is so highly valued by the lower class, that with a slice of it, and  
another

another of bread and cheese, they make as hearty a meal as the rich with all their variety of dishes. Thus it appears, that if there be some difference between the foods used here and those of Spain, the difference in their preparing them is still greater.

CHAP. VIII. — *Of the Commerce of the Province of Quito.*

FROM the two preceding chapters, a sufficient judgment may be formed of the products and manufactures in the province of Quito, which are the sources of its commerce. The persons who are the chief conductors of this commerce, are the Europeans or Chapitones; some settled here, and others coming occasionally. The latter purchase the country goods, and sell those of Europe. The manufactures of this province, as we have already noticed, are only cottons, some white called Tucuyos, and others striped bays and cloths, which meet with a good market at Lima for supplying all the inward provinces of Peru. The returns are made partly in silver, partly in gold and silver thread fringes made in that city; wine, brandy, oil, copper, tin, lead, and quicksilver. The masters of the manufactures either sell their goods to the traders, or employ them as their factors.

On the arrival of the galleons at Carthagena, the traders resort thither either by the way of Popayan or that of Santa Fé, to purchase European goods, which, at their return, they consign to their correspondents all over the province.

The products of the earth are chiefly consumed within the province, except the wheat produced in the jurisdiction of Riobamba and Chimbo, part of which are sent to Guayaquil. But this is a trade carried on only by Mestizos and poor people. It would indeed admit of great improvements, were not the freights so excessively high, that the trouble and expence of carrying them from Guayaquil to other countries, where there is a scarcity of them, renders it impossible to get a living profit.

Goods, manufactured by the public, or wove by private Indians, are, together with some kinds of provisions, sent to the jurisdiction of Barbacoas; and this is the commerce in which the Chapitones make the first essay of their abilities for trade. These provisions are exchanged for gold, found in that country, and which is afterwards sent to Lima, where it bears a greater price. Their stuffs also find a vent in the governments of Popayan and Santa Fé; and this commerce is perpetually carried on; but the only return in the tiempo muerto, or absence of the galleons, is gold, which, like that from Barbacoas, is sent to Lima.

The coast of New Spain supplies this province with indigo, of which there is a very large consumption at the manufactories, blue being universally the colour which this people affect in their apparel. They also import, by way of Guayaquil, iron and steel both from Europe and the coast of Guatemala; and though it fetches so high a price, that a quintal of iron sells for above a hundred dollars, and the same quantity of steel for a hundred and fifty, there is a continual demand in order to supply the peasants with the necessary instruments of agriculture.

The inland, or reciprocal commerce, consists in the consumption of the products of one jurisdiction in another; and is a constant incentive to industry among the inhabitants of the villages, and the lower class. Those of the province of Chimbo purchase home-made tucuyos and bags in those of Riobamba and Quito, in order to vend them at Guayaquil, bringing thence, in return, salt, fish, and cotton; the latter of which, being wove in the looms of Quito, is again sent to Guayaquil in stuffs. The jurisdictions

tions of Riobamba, Alausi and Cuenca, by means of the warehouses at Yaguache and Noranjal, carry on a considerable trade with Guayaquil.

This trade in the manufactures of that country, which consist only of three sorts, cloth, bags, and linen, is attended with considerable profit to the traders, and advantage to the country, as all the poor people, who are remarkably numerous, and persons of substance, except those of the capital, wear the goods manufactured in the country; those of Europe being so prodigiously dear, that only Spaniards of large fortune, and persons of the highest distinction, can afford to purchase them. The quantity of cloth and stuffs wove in this country, and all by Indians, either in the public manufactures or their own houses, appears from hence to be prodigiously great: and to this, in a great measure, is owing the happy state of this province; the masters and traders soon raising fortunes, and the servants and dependents contented with the fruits of their industry.

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## BOOK VI.

### DESCRIPTION OF THE PROVINCE OF QUITO.

#### CHAP. I. — *Extent of the Province of Quito, and the Jurisdiction of its Audience.*

IN the five preceding books, we have endeavoured, as far as the nature of the subject would permit, to follow the order which the series of our voyage required; and we flatter ourselves it will appear, that, though our principal attention was directed to the astronomical observations, we have not omitted any interesting particular, relating to the towns and provinces through which we passed. We were always persuaded, that if the former tended to the improvement of science, and was agreeable to those who profess it; the latter might prove useful to historians, and be acceptable to those who apply themselves to the study of the constitution, state, customs, and genius of nations. We closed the fifth book with an account of the city of Quito; this we shall employ in treating of the province, which is equally an object of curiosity; and we are enabled to gratify the reader in the most satisfactory manner, having, in the course of our observations, not only surveyed its whole extent, but, by our long stay, obtained the acquaintance of many persons of undoubted judgment and veracity, on whom we could rely for particulars not to be known from ocular inspection. So that we have sufficient reasons for warranting the truth of the contents of this history.

The large province of Quito, at the time when the Spaniards first settled in it, was annexed to the kingdom of Peru, and continued so till the year 1718, when a new viceroyalty being erected at Santa Fé de Bogota, the capital of the new kingdom of Granada, it was dismembered from Peru, and annexed to Granada. At the same time the audience of Quito was suppressed, together with that of Panama, in the kingdom of Terra Firma; though the latter continued dependent on the viceroys of Lima. The intention in this frugal scheme was, that the salaries of the great number of officers in both, which ceased on this abolition, should be applied to the support of the new viceroyalty, in order to prevent any additional burden on the royal revenue; a consequence otherwise

otherwise unavoidable. But experience has shown the impropriety and insufficiency of this measure; and that the tribunals abolished were of indispensable necessity in their respective cities; an insupportable detriment resulting to the inhabitants from the vast distance of the audiences assigned them; which were, Lima for the kingdom of Terra Firma, and those of the province of Quito, were to apply for justice to the audience of Santa Fé. And as the amount of all the salaries suppressed, besides the prejudicing many families, was not sufficient to support the dignity of a viceroy, new ideas succeeded; and rather than keep it up at the expence of the royal revenue, the viceroyalty was suppressed, and things placed again on their ancient footing in the year 1722: the officers were restored to their former posts which they had so worthily filled, and the audiences have continued the same as before. But the motives for erecting a new viceroyalty at Santa Fé being confessedly of the greatest importance, its restitution was again brought on the carpet; and the great difficulty of supporting it, without detriment either to the public or the audiences, the suppression of which had been so detrimental to the inhabitants, being overcome, the dignity of viceroyalty was again erected in the year 1739, Don Sebastian de Esclaba, lieutenant-general, being appointed the first viceroy, and arrived in the beginning of the year 1740 to take possession of his government; which included the whole kingdom of Terra Firma and the province of Quito.

This province is bounded on the north by that of Santa Fé de Bogota, and includes part of the government of Papayan; on the south it is limited by the governments of Peru and Chachapoyas; eastward it extends over the whole government of Maynas, and the river of the Amazons, to the meridian of demarcation, or that which divides the dominions of Spain and Portugal. Its western boundary is the sea, from the coast of Machala, in the gulf of Puna, to the coast of the government of Atacames and the jurisdiction of Barbacoas, in the bay of Gorgona. Its greatest breadth from north to south is about 200 leagues; and its length, from east to west, the whole extent from Cape de Santa Elena, in the south-sea, to the meridian above mentioned; which, by the most accurate computation, is 600 leagues. But a very great part of these vast dominions are, it must be owned, either inhabited by nations of savage Indians, or have not hitherto been thoroughly peopled by the Spaniards, if indeed they have been sufficiently known. All the parts that can properly be said to be peopled, and actually subject to the Spanish government, are those intercepted by the two Cordilleras of the Andes, which, in comparison to the extent of the country, may be termed a street or lane, extending from the jurisdiction of the town of St. Miguel de Ibarra to that of Loga; the country from hence to the government of Popayan, and also that comprehended between the western Cordillera and the sea. With this limitation the extent of the jurisdictions from east to west will be fifteen leagues or something more, being the distance intercepted between the two Cordilleras. But to this must be added the countries comprehended in the governments of Jaen de Bracamoros, which borders on the jurisdiction of Loja, and the extremity of the whole province, and situated on the east side of the eastern Cordillera; and, to the northward, the government of Quixos, and that of Maynas to the eastward of it; but separated by large tracts of land inhabited by wild Indians; and on the north side of the province from that of Papayan; though the latter is properly a distinct province from that of Quito. Thus on the west side of that interval between the two Cordilleras, lies the lately erected government of Atacames, and the jurisdiction of Guayaquil: on the east side, the three governments above mentioned; and on the north, that of Papayan.

This province, exclusive of these five governments, consists of nine jurisdictions, which in that country are called provinces, that of Quito being subdivided into as many others

*others as there are governments and jurisdictions ; which it is necessary for the reader to observe, in order to avoid any perplexity or mistake, when a jurisdiction happens to be called a province ; though I shall be careful to avoid it as much as possible. The jurisdictions in the province of Quito, beginning with the most northern, are the following :—*

- I. The town of San Miguel de Ibarra.
- II. The village of Otabala.
- III. The city of Quito.
- IV. The assiento of Latacunga.
- V. The town of Riobamba.
- VI. The assiento of Chimbo, or Guaranda.
- VII. The city of Guayaquil.
- VIII. The city of Cuenca.
- IX. The city of Loja.

Of these nine jurisdictions I shall give a succinct account in this and the following chapter, and then proceed to the governments.

I. The town of San Miguel de Ibarra, is the capital of the jurisdiction of that name, which also contains eight principal villages or parishes, the names of which are,

- |                              |                  |
|------------------------------|------------------|
| I. Mira.                     | V. Salinas.      |
| II. Pimanpiro.               | VI. Tumbabiro.   |
| III. Carangue.               | VII. Quilca.     |
| IV. San Antonio de Carangue. | VIII. Caguasqui. |

This jurisdiction formerly included that of Otabalo, ; but, on account of its too enormous extent, it was prudently divided into two.

The town of San Miguel de Ibarra stands on the extremity of a very large plain or meadow, at a small distance from a chain of mountains to the eastward of it, and betwixt two rivers, which keep this whole plain in a perpetual verdure. The soil is soft and moist, which not only renders the houses damp, but also causes the foundations of their buildings often to sink. It is moderately large, with straight broad streets, and the greatest part of the houses of stone, or unburnt bricks, and all tiled. The town is surrounded by suburbs inhabited by the Indians, whose cottages make the same appearance as in all other mean places ; but the houses are neat and uniform, though they are but low, having only a ground floor, except those in the square, which have one story. The parish church is a large and elegant structure, and of the same materials as the houses. It is also well ornamented. This town has convents of Franciscans, Dominicans, the Fathers of Mercy, a college of Jesuits, and a nunnery of the order of the Conception. Its inhabitants, of all ages, sects, and classes, are computed at ten or twelve thousand souls.

Within the limits of this jurisdiction is the lake of Yagarchoca, famous for being the sepulchre of the inhabitants of Otabalo, on its being taken by Huayna-Capac, the twelfth Ynca, who, instead of shewing clemency to their magnanimity, being irritated at the noble resistance they made, ordered them all to be beheaded, both those who had quietly surrendered, and those taken in arms, and their bodies thrown into the lake ; and from the water of the lake being tinged of a bloody hue, it acquired its present name, which signifies a lake of blood.

The

The air is very mild, less cold than that of Quito, and at the same time the heat is not at all inconvenient. The temperature of the air is different in all the villages of this jurisdiction, but in most warm, on account of their low situation. These parts are all over this country called Valles, as I have already observed; and the names of those in the jurisdiction of San Miguel de Ibarra are Chotar Carpuela, and several others. Most of the farms in them have plantations of sugar canes, and mills for extracting the juice, from whence they make great quantities of sugar, and very white: some are planted with the fruits common in a hot climate; and in others cotton only is cultivated, and to the greatest perfection.

The sugar canes do not ripen here so late as in Quito; but they may be committed at any time to the mill, there being no necessity for cutting them at any precise time, retaining all their goodness, even when suffered to stand two or three months after they are ripe; so that they are cut every quarter, and the mills by that means kept at work the whole year.

The farms situated in a less hot part are employed for cultivating maize, wheat, and barley, in the same manner as in the jurisdiction of Otabalo, and which we shall explain in its proper place. Here are also large numbers of goats, but not many sheep; and though the manufactures here are not so numerous as in Otabalo, yet the Indians weave a considerable quantity of cloth and cotton.

In the neighbourhood of the village of Salinas are salt mines, which, besides the home consumption, supply the countries to the northward of it. This salt has some mixture of nitre; and though it may thence be concluded to be less wholesome, yet it is attended with no ill consequence to those who are accustomed to it; but not answering the intention in salting, that from Guayaquil is used instead of it.

Within the district of the village of Mira are great numbers of wild asses, which increase very fast, and are not easily caught. The owners of the grounds where they are bred suffer all persons to take as many as they can, on paying a small acknowledgment in proportion to the number of days their sport has lasted. The manner of catching them is as follows: a number of persons go on horseback, and are attended by Indians on foot. When arrived at the proper places, they form a circle, in order to drive them into some valley, where, at full speed, they throw the noose, and halter them; for these creatures, on finding themselves inclosed, make very furious efforts to escape, and if only one forces his way through, they all follow with an irresistible impetuosity. But when the hunters have noosed them, they throw them down, and secure them with fetters, and thus leave them till the hunting is over; when, in order to bring them away with the greater facility, they pair them with tame beasts: but this is not easily performed; for these asses are so remarkably fierce, that they often hurt the persons who undertake to manage them. They have all the swiftness of horses; and neither activities nor precipices retard them in their career: when attacked, they defend themselves with their heels and mouth, with such activity that, without slackening their pace, they often maim their pursuers: but the most remarkable property in these creatures is, that after carrying the first load, their celerity leaves them, their dangerous ferocity is lost, and they soon contract the stupid look and dullness peculiar to the asinine species. It is also observable, that these creatures will not permit a horse to live among them; and if one of them happens to stray into the places where they feed, they all fall upon him, and, without giving him the liberty of flying from them, they bite and kick him till they leave him dead on the spot. They are very troublesome neighbours, making a most horrid noise; for whenever one or two of them begin to bray, they are answered in the

same vociferous manner by all within the reach of the sound, which is greatly increased and prolonged by the repercussions of the valleys and breaches of the mountains.

II. The jurisdiction joining on the south to that of St. Miguel de Ibarra, is called Otobalo, in the jurisdiction of which are the following eight principal villages or parishes :

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|----------------|----------------|
| I. Cayambe.    | V. Cotacache.  |
| II. Tabacundo. | VI. San Pablo. |
| III. Otobalo.  | VII. Tocache.  |
| IV. Atontaqui. | VIII. Urququi. |

The parish of Otobalo is well situated, and so large and populous that it is said to contain eighteen or twenty thousand souls, and among them a considerable number of Spaniards. But the inhabitants of all the other villages are universally Indians.

The lands of this jurisdiction are laid out in plantations like those of the former, except that here are not such great numbers of sugar mills ; but this is compensated by its great superiority in manufactures, a consequence resulting from the multitude of Indians residing in its villages, who seem to have an innate inclination to weaving ; for besides the stuffs made at the common manufactories, such Indians as are not Mitayos, or who are independent, make, on their own account, a variety of goods, as cottons, carpets, pavilions for beds, quilts in damask work, wholly of cotton, either white, blue, or variegated with different colours ; but all in great repute, both in the province of Quito and other parts, where they are sold to great advantage.

The method of sowing wheat and barley in this jurisdiction is very different from that used in any of the former ; for, instead of scattering the seeds, as is commonly practised, they divide the ground, after it is plowed, into several parts by furrows, and along the sides of them they make little holes a foot distant from one another, putting five or six corns into each. However tedious this may be, it is abundantly made up to the farmer by the uncommon increase, which is usually above a hundred fold.

This jurisdiction has a great number of studs of horses, and multitudes of black cattle, from whose milk large quantities of cheese are made. This country is happily situated for pasture, being every where watered with an infinite number of rivulets. It has also large flocks of sheep, though these seem to be neglected, in comparison of the others.

The village of Cayambe stands in the middle of a spacious plain, at the end of which is the foot of the mountain Cayamburo, one of the largest mountains of the Cordilleras in this part of the country, being equal in height to that of Chimborazo, and its summits covered with snow and ice. Its altitude is so much greater than the rest between it and Quito, that it may be plainly seen from that city. The vicinity of this mountain renders the whole plain of Cayambe cold, which is increased by the violence and continuance of the winds. In the territories of this jurisdiction are two lakes, one called San Pablo, from a village of that name on its banks ; it is a league in length, and about half a league in breadth. This lake is every where surrounded with a species of rushes, called there Totoral, among which are vast flocks of wild geese and gallarettes. This lake receives its water from the mountain of Mojanda, and from it issues one of the branches of the Rio Blanco. The other lake, which has nearly the same dimensions as the former, is called Cuichocha, and is situated in a plain on the side of a mountain of the same name. Near the middle of this are two islands, both which abound with wild cuyes, -a species of rabbits and deer, which often swim to main land ; but, when pursued by the hunters, disappoint them by gaining the lake, and swimming back to their retreat.

retreat. Several small fish are found in this lake, resembling the cray-fish, but without a shell. They are called, by the inhabitants of the adjacent country, prennadillas, and are sent in the pickle to Quito, where they are the more esteemed, as being the only fresh-water fish that can be bought in that city. Nor are these caught in any great quantities, though they are also found in the lake of San Pablo.

III. The jurisdiction of Quito consists of the following twenty-five parishes, besides those in the city :

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|----------------------------|-----------------------------------|
| I. St. Juan Evangelista.   | XIV. El Quinche.                  |
| II. Santa Maria Magdalena. | XV. Guayllabamba.                 |
| III. Chilogalle.           | XVI. Machacha.                    |
| IV. Cono-coto.             | XVII. Aloasio.                    |
| V. Zambiza.                | XVIII. Aloa.                      |
| VI. Pintac.                | XIX. Yumbicho.                    |
| VII. Sangolqui.            | XX. Alangasi.                     |
| VIII. Amaguana.            | XXI. Pomasque.                    |
| IX. Guapulo.               | XXII. San Antonio de Lulum-bamba. |
| X. Cumbaya.                | XXIII. Perucho.                   |
| XI. Co-collao.             | XXIV. Cola-cali.                  |
| XII. Puembo, and Pifo.     | XXV. Tumbaco.                     |
| XIII. Yaruqui.             |                                   |

This jurisdiction, though called Cinco Leguas, five leagues, extends, in some parts, a great deal farther, and the lands are as it were covered with plantations, some situated in the plains, some in the capacious breaches, and others on the summit of the mountains; and all producing according to the quality, situation, and exposure of the ground. Those on the temperate plains yield plentiful harvests of maize; those at the bottoms of deep breaches, being in a hot temperature, are planted with sugar canes, from whence they extract great quantities of sugar and rum. From the fruits peculiar to such a temperature are made a variety of sweetmeats, here called Rayados; and of which there is a great consumption among the inhabitants.

The sugar cane ripens very slowly in this jurisdiction; for though the plantations enjoy a hot air, yet it is not of that degree of heat requisite to its speedy maturity; so that it is three years after they are planted, before they are fit to be cut. Nor are they ever cut but once, the second crop only producing the foca or germ, which serves for re-planting.

The guarapo, which we have had occasion to mention, is nothing more than the juice of the cane, as it flows from the mill, and afterwards suffered to ferment. It is very pleasant, its taste being a sweetish acidity, and at the same time very wholesome; but inebriating if drunk to excess. This liquor is a favourite regale among the vulgar.

The plantations near the summits of the mountains, from their having a variety of temperatures, produce wheat, barley, pot-herbs of all kinds, and potatoes.

Above these plantations are fed numerous flocks of sheep, producing that wool, which, from the several operations it undergoes, affords employment for such multitudes of people. Some farmers make it their sole business to breed cows, principally for the advantages they derive from their milk in making cheese and butter. In other farm-houses you see various occupations carried on at the same time, namely, the breeding of cattle, agriculture, and manufactures, particularly of cloth, bays, and serges.

From what has been said, it is evident that neither this, nor the preceding jurisdiction, has any general temperature, the degree of cold and heat depending on the situation; and that to this difference is owing the delightful, and even profitable variety of all kinds of fruits and grains, each finding here a temperature agreeable to its nature. Accordingly, in travelling only half a day, you pass from a climate where the heat sufficiently indicates that you are in the torrid zone, to another where you feel all the horrors of winter. And what is still more singular; and may be esteemed an advantage, no change occurs during the whole year; the temperate parts never feeling the vicissitudes of cold and heat. This, however, must be allowed not to hold precisely with regard to the mountainous parts, the coldness of which is encreased by the violence of the winds, or a change of weather, called tiempo de paramos, when the clouds involve the greatest part of these mountains, and precipitate themselves in a fleet; at which time the cold becomes intolerable: and on the other hand, when those frigid clouds are dispersed, and the wind allayed, so that the rays of the sun reach the earth, they feel the comfortable heat of his cheering beams.

Most of these villages are built with very little regularity. The principal part of them is the church and parsonage, which they call the convent, from the priests being all formerly religious. These structures have some appearance of decency: but the other parts of the village consist of a number of huts with mud walls, scattered all over the country, where every one has his spot of ground, which he tills for his subsistence. A great part, and in some villages the whole of the inhabitants are Indians, who live there when out of place; though in some parts the inhabitants are Mestizos, and here and there a Spanish family; but these are extremely poor.

IV. The first jurisdiction to the southward of that of Quito, is the assiento of Latacunga. The word Assiento implies a place less than a town, but larger than a village. This place stands in a wide plain, having on the east side the eastern Cordillera of the Andes, from whence projects a very high mountain, and at a small distance from its foot is situated Latacunga, in  $0^{\circ} 55' 14'' 30'''$ , south latitude. On the west side of it is a river, which, though sometimes fordable, on an increase of the waters must be passed over by the bridge. This assiento is large and regular; the streets broad and straight; the houses of stone, arched, and well contrived: but on account of the dangerous consequences so often resulting from earthquakes, without any story. This precaution the inhabitants were taught by a dreadful destruction of all the buildings, on the 20th of June 1698. This terrible concussion was general all over the province of Quito; and its effects, as we shall show in the sequel, in many other places, equally melancholy. Out of six hundred stone houses, the number of which this assiento then consisted, only a part of one, and the church of the Jesuits, were left standing; and even these were so greatly damaged, that there was a necessity for pulling them down. But the greatest misfortune was, that most of the inhabitants were buried under their ruins, the earthquake beginning at one in the morning, a time of general silence and security, and continuing its concussions, at short intervals, the greatest part of the day.

The stone of which the houses and churches are built, is a kind of pumice, or spongy stone, ejected from volcanoes, inexhaustible quarries of it being found in the neighbourhood. It is so light that it will swim in water, and from its great porosity the lime cements the different pieces very strongly together; whence, and from their lowness, the houses are now enabled to support themselves during a concussion, much better than before the earthquake, when few were without a story; and if they should be unfortunately thrown down, the crush in all probability would be much less fatal.

The jurisdiction contains these principal villages :

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|----------------------------|-------------------------------|
| I. Zichios Mayor.          | X. San Miguel de Molleambato. |
| II. Zichios Menor.         | XI. Saquifili.                |
| III. Yungas, or Colorados. | XII. Pugili.                  |
| IV. Yfilimbi.              | XIII. Tanicuchi.              |
| V. Chifa-Halo, or Toacafo. | XIV. Cuzubamba.               |
| VI. Pillaro.               | XV. Tifaleo.                  |
| VII. San Phelipe.          | XVI. Angamarca.               |
| VIII. Mula-Halo.           | XVII. Pila-Halo.              |
| IX. Alaquez.               |                               |

The air of this assiento is the colder, from the place being only six leagues from the mountain of Cotopaxi, which, as it is not less in height and extent than those of Chimborazo and Cayamburo, so it is, like them, covered with ice and snow. The combustible substances within the bowels of this mountain, first declared themselves in the year 1533, when Sebastian and Belalcazar, who undertook the conquest of this province, had entered it, and proved very favourable to the enterprise. For the Indians, possessed with the truth of a prediction of their priests, that, on the bursting of this volcano, they would be deprived of their country, and reduced under the government of an unknown prince, were so struck with the concurrence of the bursting of this volcano, and the invasion of a foreign army, that the spirit, which universally began to show itself in the preparatives every where made for a vigorous resistance, entirely left them, and the whole province easily conquered, all its caciques submitting to the King of Spain. The large plain in which this assiento stands is full of rocks, ejected at that supposed ominous eruption, and some of them to the distance of five leagues from its roots. In the year 1743, while we were on the coast of Chili, a second eruption happened, the particulars of which we shall relate in another place.

The temperature of the air is very different in the several villages of this jurisdiction; being hot in those lying in the valleys; temperate in those situated on the plains; whilst the air in those bordering on the mountains, like that of the assiento, is cold, and sometimes to an excessive degree. The villages are in general larger, and more populous than those of the other jurisdictions in the same province. Their inhabitants are Indians, Mestizos, and a few Spaniards.

Besides the parish church, which is served by two priests, one for the Spaniards, and the other for the Indians, this assiento has convents of Franciscans, Augustines, Dominicans, the Fathers of Mercy, and a college of Jesuits. The churches of these religious are well built, decently ornamented, and kept very neat. The inhabitants, by the nearest computation, amount to between ten and twelve thousand, chiefly Spaniards and Mestizos. Among the former are several families of eminent rank and easy circumstances, and of such virtues and accomplishments as add a lustre to their happy situation. The Indians, as at Quito, live in a separate quarter adjoining to the country.

In this assiento all kinds of trades and mechanic arts are carried on; and, as in all the other parts of this jurisdiction, it has a considerable number of manufactories of cloth, bays, and tucuyos. Great quantities of pork are salted here for exportation to Quito, Guayaquil, and Riobamba, being highly esteemed for the peculiar flavour given to it in the pickling, and which it ever after retains.

All the neighbouring country is sowed with clover, and interspersed with plantations of willows, whose perpetual verdure gives a cheerful aspect to the country, and heightens the pleasantness of the assiento.

The Indians of Pugili and Saquifili are noted for making earthen ware, as jars, pans, pitchers, &c. which are greatly valued all over the province of Quito. The clay of which they are made is of a lively red, very fine, and emits a kind of fragrancy, and the workmanship very neat and ingenious.

V. The next jurisdiction southwards is Riobamba, the capital of which is the town of the same name. Its jurisdiction is divided into two departments; the corregidor, who resides at Riobamba, appointing a deputy, who lives at the assiento of Hambato, situated between the capital and Latacunga. In the first department are the following principal villages :

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|-----------------|--------------------|
| I. Calpi.       | X. Pungala.        |
| II. Lican.      | XI. Lito.          |
| III. Yaruquiz.  | XII. Guano.        |
| IV. San Luis.   | XIII. Hilapo.      |
| V. Cajabamba.   | XIV. Guanando.     |
| VI. San Andres. | XV. Penipe.        |
| VII. Puni.      | XVI. Cubijis.      |
| VIII. Chambo.   | XVII. Cevadas.     |
| IX. Quimia.     | XVIII. Palactanga. |

The department of the assiento of Hamberto has, in its jurisdiction, six principal villages :

- |                  |                             |
|------------------|-----------------------------|
| I. Ifambo.       | IV. Pelileo.                |
| II. Quisupincha. | V. Patate.                  |
| III. Quero.      | VI. Santa Rosa de Pilaguin. |

This assiento stands in the latitude of  $1^{\circ} 41' 40''$  south, and  $22'$  west, of the city of Quito. In 1533 it was an Indian town, of which Sebastian de Belalcazar having made himself master, the following year Marshal Diego de Almagro laid the foundation of the present assiento. It stands in a very large plain surrounded by mountains; particularly on the north side, which is bounded by Chimborazo, from the foot of which it is at no great distance. On the south side is a lake called Colta, about a league in length and three quarters of a league in breadth, where there are great numbers of wild geese and gallaretas; and its banks covered with plantations.

The principal square and streets are very regular, straight, and airy; the houses of a light stone, but something heavier than the pumice made use of at Latacunga. Some, especially those in and near the square, have a story; but the others are universally without any, being built low, on account of the earthquakes which this place has often felt, particularly that already mentioned of 1698, when many of its houses and public buildings were thrown down. The Indians who inhabited this place, and all those to the southward in this jurisdiction, before their conversion to Christianity, were known by the name of Puruayes; and are to this day distinguished from all the other Indians in the whole province.

Besides the great church, here is another called St. Sebastian, with convents of the same orders as at Latacunga, and a nunnery of the Conception; contributions are still raised

raised for the use of the hospital, though it is in so ruinous a condition as not to admit of patients.

On the west side of the *asiento* is a river cut into small channels or trenches, for watering the adjacent fields; by which means they are rendered so remarkably fertile, that they produce clover the whole year.

The inhabitants, according to an accurate calculation, amount to between sixteen and twenty thousand souls. The manners and customs here are nearly the same with those at Quito; the greatest part of the families of distinction in that city owing their origin to this place. For at the beginning of the conquests, many of the eminent families which came from Spain settled here at the conclusion of the war, and have been very careful not to diminish either the lustre of their families, or their wealth, by promiscuous alliances, marrying only into one another.

The magistracy consists of *regidores*, who are always persons of the first distinction, and from among those are annually chosen the ordinary *alcaldes*; with this singularity, that the validity of the election depends on its being unanimous, a single vote rendering it void. Besides, the person thus elected is either confirmed or rejected by the townsmen; a privilege known in no other part of the whole province.

The air is colder here than at Quito, owing in a great measure to the neighbourhood of the mountain of Chimborazo; and, when the wind blows from that quarter, the weather is so sharp, that the rich families leave the town, and retire to their estates, situated in a warmer air, though at no great distance. This uncomfortable season generally lasts from December to June, the north and north-west winds then principally prevailing. It is, however, in a great measure, free from those violent showers and tempests so common at Quito, that sometimes for many days successively it enjoys serene and delightful weather; and the same may be said of the greatest part of its jurisdiction.

Here are many plantations, or farms, and most of them considerable; and for the number and largeness of its manufactories, it surpasses every other part of this province; though the Indians seem born with an inclination for weaving, particularly those of the village of Guana, who are famed for their manufactures of worsted stockings, and it is indeed the only place in the whole province where they are made. This industrious disposition probably gave rise to the large flocks of sheep in this jurisdiction, whence these manufactories are never in want of wool. The soil is very fertile, producing all kinds of grain and pulse in abundance. And here is most frequently seen what I have elsewhere observed, that in one part the husbandmen are sowing, in another reaping; the landscape also elegantly adorned with such an enchanting variety of colours as painting cannot express.

In this jurisdiction is a large plain lying south of the town of Tiocaxas, and famous for a battle between the Spaniards commanded by Belalcazar and the Puruayes Indians, before their courage had been depressed by the ominous explosion of the mountain. Both armies fought with great obstinacy, though neither gained the victory.

The *asiento* of Hambato stands in a wide plain at the bottom of a mountain. On the north side of it runs a large river, over which a bridge has been built, it being never fordable on account of its depth and extreme rapidity. It is finely situated, and in extent and populousness nearly equal to Latacunga, the number of its inhabitants amounting to eight or nine thousand. The houses are of unburnt bricks, well contrived, and make a good appearance. With regard to their lowness, it is owing to a discreet precaution against the melancholy shocks of earthquakes. It has a parish-church, two chapels of ease, and a convent of Franciscans. The earthquake which

made such terrible havock in the assiento of Latacunga, proved also fatal to this. The earth near it opened in several places, of which there still remains an astonishing monument on the south side of the assiento, being a chasm four or five feet broad, and about a league in length, north and south. And on the north side of the river are several openings of the same kind. The horror of the shock was greatly increased by terrible eruptions from Mount Carguairaso, from whence a muddy torrent, formed of ashes, cinders, and snow melted by the flames from the aperture, precipitated down the sides of the mountain, overflowing the fields, sweeping away the cattle, and every other object, by its violence. A track of this impetuous current is still to be seen on the south side of the assiento.

The inhabitants in their manners and customs resemble those of Quito; but with regard to families of distinction, it is much inferior to Riobamba. Courage is an innate quality of the natives, but blended with such vices, that both their neighbours, and the inhabitants of the other parts of the province, will have no concerns with them, except those absolutely necessary; and, in all dealings with them, take care to guard equally against their deceit and violence.

This jurisdiction in several of its products and manufactures excels all the rest: one of which is bread, particularly that made at the assiento, which is famous all over the province; and accordingly it is sent to Quito, and other parts, without losing any thing of its goodness by length of time. The Indian inhabitants of the village of Quero make all sorts of cabinet work, for which there is a great demand all over the province, as, besides the goodness of the workmanship, this is the only place where goods of this kind are made. The jurisdiction of Patate is equally famous for the plenty of sugar canes, and the goodness of the sugar made from them, being of the finest sort. That of Santa Rosa de Pilaguin, which, with its fields, lies on the side of Carguairaso, is famous for the particular goodness of its barley, as the district bordering on the assiento is for the exquisiteness of its fruits; and to this district Quito owes most of the European kinds sold in that city, the temperature of the air being peculiarly adapted to the perfection of those fruits.

VI. On the west side of the jurisdiction of Riobamba, between it and Guayaquil, lies that of Chimbo, whose jurisdiction consists of an assiento and seven villages: the former, being the capital, is called Chimbo, and was the residence of the corregidor, till it was thought proper, for the conveniency of commerce, to remove it to Guaranda. This assiento does not contain above eighty families; some of which are Spaniards, but all poor. The names of the villages are,

- |                 |                 |
|-----------------|-----------------|
| I. San Lorenzo. | V. Guaranda.    |
| II. Asaneoto.   | VI. Guanujo.    |
| III. Chapacoto. | VII. Tomabelas. |
| IV. San Miguel. |                 |

The most considerable of their villages is that Guaranda, though the inhabitants are generally Mestizos; there are some Indians, but very few Spaniards.

The jurisdiction of Chimbo, being the first of the Serrania, or ridge of mountains, bordering on that of Guayaquil, carries on, by means of innumerable droves of mules, the whole trade of Quito and the other provinces, by the way of Guayaquil, carrying the bales of cloth, and stuffs, together with the meal, corn, and other products of the country, from the former to the latter; and returning with wine, brandy, salt, cotton, fish, oil, and other goods wanted in the provinces of the mountains. This traffic

traffic is of inconceivable benefit to the inhabitants; but it can only be carried on during the summer, the roads in the winter being absolutely impracticable to beasts of any kind. This intermission of trade they call 'Cerrarse la Montana,' the shutting up of the mountains.

The temperature of the air at Guaranda, and that of the greatest part of the jurisdiction of Chimbo, from the proximity of Chimborazo, so often mentioned for its frigorific effects, is very cold. The country is large and fertile, like those already mentioned; but the haciendas, or farms, are in general appropriated to the breeding of mules; a few only being sown with different species of grain.

VII. The jurisdiction of Guayaquil is the last; but this has been already treated at large.

## CHAP. II. — *Sequel of the Account of the Jurisdictions in the Province of Quito.*

VIII. THE jurisdiction bordering on the southern parts of Riobamba is that of Cuenca, whose capital is the city of the same name, founded in the year 1557, by Gil Ramirez Davalos. Its jurisdiction is divided into two departments, of which the capital is one, and that of Alausi the other; the last reaches to Riobamba, and is governed by a deputy of the corregidor. Besides the assiento, it contains only the four following villages:

- |                |               |
|----------------|---------------|
| I. Chumche.    | III. Cibambe. |
| II. Guafuntos. | IV. Ticsan.   |

But that of the city of Cuenca includes ten:

- |                   |                |
|-------------------|----------------|
| I. Azogues.       | VI. Paccha.    |
| II. Atuncanar.    | VII. Gualaseo. |
| III. Giron.       | VIII. Paute.   |
| IV. Canary-bamba. | IX. Delec.     |
| V. Espiritu.      | X. Molleturo.  |

The city of Cuenca lies in  $2^{\circ} 53' 49''$  south latitude, and  $29^{\circ} 25''$  west of the meridian of Quito. It stands in a very spacious plain, along which, at about half a league to the northward of the city, runs a little river called Machangara; and close to the south side of the city runs another, known by the name of Matadero. Besides these, at the distance of a quarter of a league, runs another called Yanuncay; and at about the same distance is another termed Los Banos, from a village of that name, through which it flows. All these rivers are at some seasons fordable; but at others can only be crossed with safety over the bridges.

The plain in which this city stands reaches about six leagues from north to south; and the four rivers, whose courses are nearly in the same direction, form, at a small distance, by the conflux of their streams, a very large river. To the south of the city is another plain of about two leagues in extent, and, with its great variety of regular plantations of trees, and other rural improvements, makes a very delightful appearance all the year round.

This city may be classed among those of the fourth order. Its streets are straight, and of a convenient breadth; the houses of unburnt bricks, tiled, and many of them

have one story, the owners, from a ridiculous affectation of grandeur, preferring elegance to security. The suburbs, inhabited by the Indians, are, as usual, mean and regular. Several streams of water, by great labour, are brought from the above rivers, and flow through the streets; so that the city is plentifully supplied; and for its admirable situation, and the fertility of the soil, it might be rendered the paradise, not only of the province of Quito, but of all Peru; few cities being capable to boast of so many advantages as concentrate here; but, either from supineness or ignorance, they are far from being duly improved. One circumstance, which adds a singular beauty to its situation, is, that the mountains are not so high as to intercept the view of a beautiful country; but at a proper distance they rise again to their stupendous height, as is seen in the mountain Azuay, which divides this jurisdiction from that of Alausi.

Cuenca contains three parishes; that of the great church consists of Spaniards and Mestizos; the two others, which are called San Blas and San Sebastian, are for the Indians. Here are convents of Franciscans, Dominicans, Augustines, and the Fathers of Mercy; a college of Jesuits, and two nunneries, one of the Conception, and the other of Santa Teresa. Here is also an hospital, but through ill management now almost in ruins.

The magistracy is composed of regidores and ordinary alcaldes, which, according to the general custom, are chosen annually, and at their head is the corregidor. Here is a chamber of finances, under the direction of an accomptant and treasurer. It was formerly kept in the city of Sevilla del Oro, a jurisdiction, and the capital of the department of Macas; but on the loss of the city of Logrono, the village of Cuambaya and other places, it was removed to Loja, and since to Cuenca. The revenues paid into it consist of the tribute of the Indians of this department, together with that of Alausi, the jurisdiction of Loja, and the government of Jean de Bracamoros; the duties on provisions, and the customs collected at Naranjal.

The inhabitants here, though of the same classes with those of Quito, differ something in their genius and manners; particularly in a most shameful indolence, which seems so natural to them, that they have a strange aversion to all kinds of work; the vulgar are also rude, vindictive, and, in short, wicked in every sense. From this general reproach, the women must, however, be excepted, being remarkable for an uncommon spirit of industry; as if they were determined to atone for the indolence of the other sex. They spin and weave bays, which, for their goodness, and especially the brilliancy of the colours, are famous in every part of Peru. They also weave some *tucuyos*; and make bargains with the merchants or traders. They buy and sell; and, in short, manage entirely that little commerce by which their families are supported; whilst their husbands, brothers, and fathers, give themselves up to sloth and idleness, with all its infamous concomitants. The whole number of inhabitants of this city is computed at twenty or thirty thousand souls; and both those of the city and of the jurisdiction are commonly known by the general name of Morlacos.

The pleasures arising from the fertility of the soil are increased by the mildness of the climate, the liquor of the thermometer fluctuating the whole year between 1013 and 1015; so that the cold is very little felt, and the heat very supportable. With regard to rains, and tempests of thunder and lightning, they are as common here as at Quito. In calm weather, the sky is serene, and the inhabitants healthy; nor are malignant fevers and pleurisies, though common to the whole province, so often known as at Quito. The country is finely interspersed with farm-houses and plantations of sugar canes; some parts are cultivated for corn, and others applied to the feeding of sheep and horned cattle, from the last of which they make great quantities of cheese, not

inferior to that of Europe; and accordingly there is a very considerable demand for it all over these parts.

The village of Atun-canar, or Great-canar, is famous for its extensive corn fields, and the rich harvest they afford. It is also remarkable for the riches concealed in its mountains, the bravery of its ancient inhabitants, and their unshaken loyalty to Ynca Tupac-Yupanqui, to whom, when his army intended for this country was arrived near the frontiers, sensible of their inability of making any effectual resistance, they submitted, and paid him all the honours which denoted a voluntary subjection; and these marks of loyalty so prepossessed the emperor in their favour, that, to encourage them to cherish such good dispositions, he ordered several magnificent temples, splendid palaces, and forts, all of stone, to be built here, in the manner of those of Cusco, and the inside of the walls to be plated over with gold. And of these works some monuments still remain in a fort and palace, and of which neither time nor accidents have obliterated their astonishing magnificence; a description will be given of both in another place. These works had such happy effects on the grateful inhabitants, that they fell at last victims to their loyalty; for, having sided with the Ynca Huescar, their lawful sovereign, against his brother Ata Huallpa, and the former losing a decisive battle, the conqueror inhumanly abused his victory, by destroying those unhappy persons who had done no more than their duty, no less than 60,000 of them being massacred in cold blood.

These Indians were united with the Guasantos, and those of Pamallacta, in which district are still to be seen the ruins of another fort, built by the Yncas. The intimacy between the inhabitants of these countries was so remarkable, that they were all called Canarejos, that under one name they might form one body.

The asiento of Alausi, the chief place of the second department, is not very populous, though among its inhabitants are some Spanish families of the first rank. The other inhabitants are Mestizos and Indians, but both classes in mean circumstances. The parochial church is the only ecclesiastical structure; nor has this the ornaments which decency requires.

The village of Ticlan, which stood in this department, was totally destroyed by an earthquake, and the inhabitants removed to a safer situation. The marks of these dreadful convulsions of nature are still visible in several chasms among the mountains, many being two or three feet broad, a convincing proof of the violent concussions in the bowels of the earth at the time of that catastrophe. The temperature of the air is here something colder than at Cuenca; but not in a degree sufficient to lessen the exuberant fertility of the soil.

Among the great variety of mines in the jurisdiction of Cuenca, and which I shall consider more at large in the sequel, those of gold and silver, according to the common opinion, are not the least numerous. Report has indeed magnified them to such a degree, that, to prove the astonishing quantity of those metals, the inhabitants relate the following story, the truth of which I do not pretend to warrant. It exhibits indeed an instance so contrary to the common order of things, as to be scarce reconcileable to reason. I shall, however, venture to relate it, because, if the reader should think it incredible, it will at least serve to convey an idea of the riches supposed to be concealed in the bowels of the mountains.

Between the valleys of Chugui-pata, which extend from the village and jurisdiction of Los Azogues southward, and that of Poute running eastward along the banks of the same name, are several eminences which divide the two plains, and among these, one higher than the rest, called Supay-urco, a name said to have been given it on the following

following account. An inhabitant of the province of Estramadura in Spain, from the extremity of his distress, abandoned himself to despair; and, in the phrenzy of his wild imagination, sometimes implored the assistance of Satan, and sometimes cursed the moment that gave birth to his wretched being, and was for laying violent hands upon himself. The devil, taking advantage of his condition, appeared to him, but in a dress which sufficiently concealed his nature, and courteously asked the cause of his excessive melancholy; and, being informed that it was owing to an unhappy change of circumstances, from a plentiful fortune to the most extreme poverty, the devil, with a cheerful air, told him, that he would show him a spot from whence he might have what quantity of gold he pleased, the mine being absolutely inexhaustible. The Spaniard embraced the offer with the greatest transport of joy; and concluding that it would at least prove a journey of some days, purchased, with the penurious remains of his substance, a few loaves, which he packed up in his wallet; and, his mind being something easier from these flattering promises, laid himself down to rest till the time appointed, when he was to call upon his guide. But when he awaked, he found himself in a country absolutely unknown, the plain of Chiquipata lying before him, and himself reclined on the eminence of Supay-urco. His astonishment, at viewing such multitudes of strange objects, can be much better conceived than expressed. For some time indeed he doubted whether they were real or illusive, till tired with uncertainties, and, determined to know in what country he was, he directed his way to a house of some figure, which he saw at a distance. This happened fortunately to belong to a Spaniard, who was a native of the same province of Estramadura; and being informed by his servants that a stranger of the same country was at the gate, the master, pleasing himself with the hopes of hearing some news from his native land, ordered him to be brought in, received him with great marks of friendship, and, being at breakfast, made him sit down with him, and began to enter on the pleasing inquiry after his friends and relations; but his guest taking out one of his loaves, which the gentleman knew was baked in Spain, and finding it quite new, was so lost in astonishment, that he forgot both his breakfast and relations, insisting (though afraid to hear) that his apparent countryman should inform him how it was possible to make so long a voyage in so short a time. The other readily satisfying his desire, they both agreed that this must have been an action of that enemy to mankind, who had brought the poor Spaniard thither to enrich himself from the treasures concealed in the bowels of the hill on which he had laid him; and, ever since, it has been called Supay-urco, or the Devil's Hill. This story is well known throughout all the jurisdiction of Cuenca, even the children are acquainted with it; and father Manuel Rodriguez, in his "*Historia del Maranon, y Amazonas, lib. ii. cap. 4.*" mentions it. From all which, it may be inferred, that it is, in reality, of as ancient a date as the inhabitants of Cuenca pretend; that it has descended through a long series of time without alteration; and from this story, though destitute of proof, the notion that this hill contains an inexhaustible treasure had its rise.

IX. The last jurisdiction of the province of Quito, on this side, is that of Loja, the capital of which is called by the same name, and was founded in the year 1546, by Captain Alonso de Mercadillo. It resembles, in extent, form, and buildings, the city of Cuenca; but the temperature of the air is considerably hotter. In its district are the following fourteen villages:

- I. Saraguro and Ona.
- II. San Juan del Valle.
- III. Zaruma.

- IV. Yuluc.
- V. Guachanana.
- VI. Gonzanama.

- VII. Cariumanga.

VII. Cariumanga.  
VIII. Zororonga.  
IX. Domingullo.  
X. Catacocha.

XI. San Lucas de Amboca.  
XII. El Sifne.  
XIII. Malacatos.  
XIV. San Pedro del Valle.

LOJA, besides two churches, has several convents, a nunnery, a college of Jesuits, and an hospital.

In the territory of this jurisdiction is produced that famous specific for intermitting fevers, known by the name of *Cascarilla de Loja*, or *Quinquina*. Of this specific there are different kinds, one of which is more efficacious than the others. M. de Jussieu, whom I have already had occasion to mention more than once, being sent to make botanical observations, and take care of the health of the academicians, took the trouble of making a journey to Loja, purely to examine the tree which produces it; and in a full description, which he drew up for the satisfaction of botanists and other curious persons, enters, with his known skill and accuracy, into a very minute distinction of the several species, and enumerates the smallest circumstances. At the same time, he was pleased to inform the corregidor of the differences, and to instruct the Indians employed in cutting it to distinguish each species, that the best sort only might be sent unmixed to Europe. Nor was this all; he farther instructed them how to make an extract of it, and prevailed on the inhabitants of that territory to use it, where its virtues had till that time been neglected, though intermitting fevers are there as common as in any other parts. Before he undeceived them, the natives imagined that it was exported to Europe only as an ingredient in dyeing; and, though they were not entirely ignorant of its virtues, they made no use of it, little imagining that a simple of so hot a nature could be good for them. But this ingenious physician convinced them of their mistake by many happy effects; so that, now, it is generally used in all kinds of fevers: and persons of undoubted veracity, who have since visited Loja, have given me very pleasing accounts of its salutary effects.

The tree which produces the *cascarilla* is not of the largest size, its usual height being about two toises and a half, and the body and branches of a proportionate thickness. In this, however, there is some difference, and in that consists the goodness of the *cascarilla*, the largest branches not yielding the best. There is also a difference both in the blossom and seed. The Indians, in order to take off the *cascarilla* or cortex, cut down the tree; after which, they bark it, and dry the *quinquina*. There are here large and thick forests of this tree; but notwithstanding this, there is a very sensible diminution of them, occasioned by the Indians not sowing the seed; those which grow spontaneously not being by any means equal to those which have been cut down.

In the jurisdiction of Cuenca have also been discovered many woody parts, in which this valuable tree is found: and when I was in that country, a priest at Cuenca procured a large quantity of *cascarilla*, and sent it to Panama, the only place from whence it is exported. This instance, together with his assurances that it was of the same kind with that of Loja, induced several of the inhabitants of Cuenca to attempt the discovery, and were soon convinced that the jurisdiction contained large forests of this tree, which had been neglected by them, whilst their neighbours reaped no small advantages from it.

The jurisdiction of Loja has also a very great advantage from breeding the cochineal, and which intelligent persons reckon of equal goodness with that of Oaxaca in New Spain; but the inhabitants are so far from applying themselves to the breeding of that insect, sufficient to supply the demands of a particular trade, that they breed no more

than what they imagine will be sufficient for the dyers in that and the neighbouring jurisdiction of Cuenca. To this elegant and lasting colour it is probably owing that the bays of Cuenca, and the carpets of Loja, are preferred to all others: though the beauty of the colours may in some measure proceed from the superior skill of the workmen of Loja and Cuenca, over those of Quito and other parts of the province where the same goods are manufactured. The cochineal is also bred in the department of Hambato, though without any constant gatherings of that insect. It is not, however, to be doubted, but that a more careful attention would ensure them the same success in great as in small quantities.

Having mentioned this insect, so highly valued in every part of the world for the incomparable beauty of its red, which it equally communicates to wool, silk, linen, and cotton, it may be expected that I should give some farther account of it; and as I should be sorry to disappoint any rational curiosity of my readers, and at the same time to insert any thing that is not strictly true, I was unwilling to rely wholly on my own experience; together with the accounts I procured at Loja and Hambato, especially as Oaxaca is the principal place where this insect is produced, I made it my business to consult persons well acquainted with the subject, and received the following account, in which they all unanimously agreed.

The cochineal is bred on a plant known in Oaxaca, and all those parts where it abounds, by the name of Nopal\*, or Nopalleca, the Indian fig-tree, which, except in the difference of the foliage, resembles the tunos, so common in the kingdom of Andalusia. The leaf of the tuna being broad, flat, and prickly; and that of the nopal, oblong, with several eminences; and instead of spines, has a fine smooth membrane, of a fine permanent and lively green.

The method of planting the nopal is by making rows of holes, about half a yard deep, and about two yards distant from one another. In each of these holes is placed one or two leaves of the nopal, in a flat position, and then covered with earth. This leaf soon after shoots up into a single stem, which during its growth divides into several branches, and these successively produce fresh leaves, the largest being nearest to the stem, which is full of knots, as are also the branches, and from these the leaves have their origin. The usual height of this plant is about three yards, which it seldom exceeds. The season when the nopal displays all its beauty and vigour is, like that of other plants, from the spring to the autumn, which at Oaxaca, and other parts of North America, is at the same time as in Spain. Its blossom is small, of a bright red, and in the shape of a bud, from the centre of which proceeds the tuna, a name given to its fruit; and as this increases, the blossom fades, till at length it falls. When the tuna, or fig, is ripe, the outward skin becomes white; but the pulp is so fully impregnated with a deep red, that it tinges of a blood colour the urine of those who eat it; a circumstance of no small uneasiness to those who are unacquainted with this particular. Few fruits, however, are either more wholesome or pleasant.

The ground where the nopal is intended to be planted must be carefully cleansed from all kinds of weeds, as they drain the soil of those juices which the nopal requires. Also after the cochineal is taken from the plant, which is never done till the insects are arrived at perfection, all the superfluous leaves are plucked off, that they may be succeeded by others the following year. For it must be observed, that the

\* This plant is called by botanists, *Opuntia maxima, folio oblongo rotundo majore, spinulis obtusis mollibus et innocentibus obfita, flore striis rubris variegato.* Sloane's Catalogue.

cochineal which are bred on young plants thrive much better, and are of a finer quality, than those produced on such as have stood some years.

The cochineal was formerly imagined to be a fruit or seed of some particular plant; an error which probably arose from an ignorance of the manner in which it is propagated; but, at present, every one is convinced of its being an insect, agreeably to its name, signifying a wood-louse, which generally breeds in damp places, especially in gardens. These insects, by rolling themselves up, form a little ball, something less than a pea, and in some places are known by the name of Baquillas de San Anton, i. e. St. Anthony's little cows: and such is the figure of the cochineal, except that it has not the faculty of rolling itself up; and its magnitude, when at its full growth, does not exceed that of a tick, common in dogs and other animals.

These insects breed and are nourished on the nopals, where their eggs are placed among the leaves; the juice of the plant, which is their sole nourishment, becomes converted into their substance; when, instead of being thin and watery, and, to all outward appearance, of little or no use, it is rendered a most beautiful crimson colour. The plant is in May or June in its most vigorous state, and at this favourable season the eggs are deposited; and in the short space of two months, from an animalcule, the insect grows up to the size above-mentioned: but its infant state is exposed to a variety of dangers; the violent blasts of the north wind sweep away the eggs from the foliage of the plant: and, what is equally fatal to their tender constitutions, showers, fogs, and frosts, often attack them and destroy the leaves, leaving the careful cultivator this only resource, namely, that of making fires at certain distances, and filling the air with smoke, which frequently preserve them from the fatal effects of the inclemency of the weather.

The breeding of cochineal is also greatly obstructed by birds of different kinds, which are very fond of these insects; and the same danger is to be apprehended from the worms, &c. which are found among the plantations of nopals: so that, unless constant care be taken to fright the birds away from the plantation, and to clear the ground of those various kinds of vermin which multiply so fast in it, the owner will be greatly disappointed in his expectations.

When the insects are at their full growth, they are gathered and put into pots of earthen ware; but great attention is requisite to prevent them from getting out, as in that case great numbers of them would be lost: though there is no danger of it, where they are at liberty on the nopal leaves, those being their natural habitation, and where they enjoy a plenty of delicious food; for though they often remove from one leaf to another, they never quit the plant; nor is it uncommon to see the leaves entirely covered with them, especially when they are arrived at maturity. When they have been confined some time in these pots, they are killed and put into bags. The Indians have three different methods of killing these insects; one by hot water, another by fire, and a third by the rays of the sun; and to these are owing the several gradations of the colour, which in some is dark, and in others bright; but all require a certain degree of heat. Those, therefore, who use hot water are very careful to give it the requisite heat, and that the quantity of water be proportioned to the number of insects. The method of killing them by fire, is to put them on shovels into an oven, moderately heated for that intention; the fine quality of the cochineal depending on its not being over-dried at the time of killing the insects: and it must be owned, that among the several ways made use of to destroy this valuable creature, that of the rays of the sun seems to bid fairest for performing it in the most perfect manner.

Besides

Besides the precaution requisite in killing the cochineal, in order to preserve its quality, it is equally necessary to know when it is in a proper state for being removed from the leaves of the nopal; but, as experience only can teach the cultivator this necessary criterion, no fixed rule can be laid down. Accordingly, in these provinces where the cultivation of these insects is chiefly carried on, those gathered by Indians of one village differ from those gathered in another; and even those gathered by one person in the same village are often different from those gathered by another; every individual adhering to his own method.

The cochineal insect may in some circumstances be compared to the silk worm, particularly in the manner of depositing its eggs. The insects destined for this particular are taken at a proper time of their growth, and put into a box well closed, and lined with a coarse cloth, that none of them be lost. In this confinement they lay their eggs and die. The box is kept close shut till the time of placing the eggs on the nopal, when, if any motion is perceived, it is a sufficient indication that the animalcule has life, though the egg is so minute as hardly to be perceived; and this is the seed placed on the foliage of the nopal, and the quantity contained in the shell of a hen's egg is sufficient for covering a whole plant. It is remarkable that this insect does not, or at least in any visible manner, injure the plant; but extracts its nourishment from the most succulent juice, which it sucks by means of its proboscis through the fine teguments of the leaves.

The principal countries where the cochineal insects are bred, are Oaxaca, Ixtapalapa, Ceulula, Nueva Galicia, and Chiapa in the kingdom of New Spain; and Hambato, Loja, and Tucuman in Peru. And though the nopal thrives equally in all, yet it is only in Oaxaca that they are gathered in large quantities, and form a branch of commerce, the cultivation of these little creatures being there the chief employment of the Indians; whereas in others, where the inhabitants take but little trouble in their cultivation, they breed wild, and those gathered in them are accordingly called *Grana Sylvestria* \*. Not that either the insects or nopals are of different species; for with regard to the disadvantageous difference between the colour of the wild cochineal and that of Oaxaca, it does not proceed from a difference of species, but for want of a proper care in its improvement; and were the culture every alike, this difference would no longer subsist. But the Indians neglect it, either because no commerce of that kind has been opened among them; or from an aversion to the trouble and attention requisite to bring those insects to perfection; or, lastly, from the apprehension that the fruits of all their time and care may be destroyed by one of the above-mentioned accidents.

The temperature best adapted to the production of this insect cannot be precisely determined, there being in Oaxaca, as well as in the province of Quito, parts of very different temperatures, some hot, some temperate, and others cold; yet all breed the cochineal. It is, however, very probable, that the most proper climate is the temperate and dry; because in these the nopal thrives the best. And agreeably to this observation it is remarked, that Hambato and Loja are the countries in the province of Quito where they most abound; though they are also seen in other parts, where both the heat and cold are greater.

Here I cannot help observing, that Andalusia in Spain appears to me extremely well situated for breeding cochineal; both from the nature of the climate, and the plantation of fig trees, which there attain so great perfection. Here also neither frosts, fogs, or snows, are to be apprehended, particularly in spring; and the happy medium between cold and heat is, as I have before observed, that which this creature is particularly fond of.

\* This wild cochineal is generally known in England by the name of cochineal mesticque.

The inhabitants of Loja, who are known all over this province by the name of Lojanos, do not exceed ten thousand souls, though formerly, when the city was in its greatest prosperity, they were much more numerous. Their character is much better than that of the inhabitants of Cuenca; and besides their affinity in customs and tempers to the other villages, they cannot be branded with the character of being slothful. In this jurisdiction, such numerous droves of horned cattle and mules are bred, that it supplies the others of this province, and that of Piura in Valles. The carpets also manufactured here are of such remarkable fineness, that they find a ready sale wherever they are sent.

The corregidor of Loja is also governor of Yaguarfongo, and principal alcalde of the mines of Zaruma; and, as such, a chair of state is placed for him at all public solemnities of the church, where he is present; a distinguishing honour allowed only to the presidents or governors of those provinces. The post of governor of Yaguarfongo is at present a mere title without any jurisdiction; part of the villages which formed it being lost by the revolt of the Indians, and the others added to the government of Jaen; so that the corregidor of Loja enjoys only those honours intended to continue the remembrance of that government.

The town of Zaruma, in the jurisdiction of which are those mines of gold I shall mention in another part, has presented the corregidor of Loja with the title of its alcalde major. It was one of the first towns founded in this province, and at the same time one of the most opulent; but is at present in a mean condition, owing chiefly to the decay of its mines, on which account most of the Spanish families have retired, some to Cuenca, and others to Loja; so that at present its inhabitants are said not to exceed six thousand. The declension of these mines, which is not so much to be imputed to a scarcity of metal, as to the negligence of those concerned in working them, has been disadvantageous to the whole department of Loja; and consequently diminished the number of its inhabitants.

Having thus described those nine jurisdictions which form the most wealthy part of the province of Quito, I shall, in the following chapters, treat of the governments.

### CHAP. III. — *Account of the Governments of Popayan and Atacames, belonging to the Province of Quito.*

WE have already given a just account of every thing worthy notice in the jurisdictions within the audience of Quito. To render the narrative complete, it is necessary that we now proceed to the governments within the limits of that audience, as they jointly form the vast country of the province of Quito. And though they generally give the name of province to every government, and even to the departments into which both are subdivided, we shall not here follow this vulgar acceptation, it being in reality founded only on the difference of the notions of Indians who formerly inhabited this country, every one being governed by its curaca, or despotic sovereign. These nations the Yncas subdued, and obliged them to receive the laws of their empire; but the curacas were confirmed in all those hereditary rights of sovereignty compatible with the supreme prerogative. Were we indeed to use the name of province in this sense, every village must be called so; for it may be easily shown, that in the time of heathenism, every village had its particular curaca: and sometimes, as in Valles, in this jurisdiction of Popayan, in Maynas, and the Maragnon, there was not only a curaca in each

village, with all the appendages of government, but the inhabitants spoke a different language, had different laws and customs, and lived totally independent of each other. But these villages and ancient provinces being now comprehended under the jurisdiction of one single tribunal; and those which before were under a multitude of curacas acknowledging one sovereign, and composing one province, where justice is administered to them in the name of the prince; and the governments being in juridical affairs dependent on the audience of Quito, they can only be considered as parts of its province. It is therefore requisite, in order to form a proper idea of this country, that I should treat of them in the same circumstantial manner I have already observed in describing the jurisdictions.

I. The first government in the province of Quito, and which terminates it on the north, is that of Popayan. It is not indeed wholly dependent on it, being divided into two jurisdictions, of which that on the north and east belong to the audience of Santa Fé, or the new kingdom of Granada, Quito having only those parts lying towards the south and west; so that, without omitting any thing remarkable in the whole government, I shall be a little more explicit in my account of the department belonging to Quito.

The conquest of the whole country now containing the government of Popayan, or at least the greater part of it, was performed by that famous commander Sebastian de Belalcazar, who being governor of the province of Quito, where he had settled a perfect tranquillity, and finished the building of that city, being informed that on the north side of his government lay a country of great extent, and richer than the parts he already possessed, prompted by that spirit which had animated the Spaniards to extend their reputation by a series of amazing conquests in this part of the globe, he set out on his enterprise in 1536, at the head of three hundred Spaniards; and after several sharp encounters with the Indians of Pasto, who first opposed his march, he proceeded in his conquests, and reduced the two principal curacas of that country, Calambas and Popayan (after whom both the country and chief town were called), two brothers equally respected for their power and military talents. This defeat opened him a passage to future conquests; and the neighbouring nations, terrified at the success of those illustrious warriors, submitted to the King of Spain. Belalcazar, after these exploits, in the prosecution of his conquests, had several other encounters with Indians, fired with the disdain of submitting to a foreign yoke. His conquests were, however, at last so rapid, that at the close of the same year he pitched his camp in the centre of that country, where the mildness of the climate, the fertility of the soil, and salubrity of the air, conspired to induce him to render it the seat of the Spanish government. Accordingly, in 1537, he laid the foundation of the first city, which still retains the name of Popayan; and whilst the place was building, he, to keep his people in exercise, and prevent the Indians he had conquered from forming themselves into a new army, or carrying on any clandestine correspondence with those whom his arms had not reached, sent out detachments different ways, with orders to march into the neighbouring countries, that they might prevent the rising of some, and reduce others to obedience.

Belalcazar had scarce finished his new town, when the officers of these corps, on their return made such a report of the riches and fertility of the country, that he determined to view it in person, increase the number of towns, and by that means secure the possession of it. Accordingly he continued his march to Cali, where he built a town, which still retains the same name, though in a different country; for after it was finished in the country of the Gorriones Indians, captain Miguel Munoz soon after removed it, on account of the unhealthiness of the air. Belalcazar founded also another town, called  
Santa

Santa Fé de Antioquia; and, charmed with the fertility and richness of the country, he proceeded to people it every where.

Nor was this all; for Belalcazar, in order to enhance the glory and importance of this country, was very desirous of making a road from Quito to the North Sea, as he had before done to the Pacific Ocean. Among the discoveries made by his captains whilst he was employed in superintending the building of Popayan, one was, that at no great distance from that place were two of the principal sources of the great river Magdalena; whence he conceived they might easily find a passage to the North Sea. This opinion the general had the pleasure of finding unanimously agreed to, which induced him to make every disposition for the security and welfare of his conquests, being determined to return by way of that river to Spain, in order to solicit the title of governor of the country which he had discovered, conquered, and peopled. Accordingly the title was conferred on him, and in his government were comprehended all the territories then considered as within his conquests; but in the year 1730 the country of Choco was separated from it, and made a particular government, though the order was not carried into execution till the year 1735. This part, belonging to the province of the new kingdom of Granada, does not come within our description.

The city of Popayan, one of the most ancient in these parts, that title having been granted it on the fifth of July 1538, stands in a large plain, having on the north side an uninterrupted prospect of the country. Its latitude is  $2^{\circ} 28'$  north; lies about two degrees east of the meridian of Quito, on the east side of a mountain of a middling height called M, from the resemblance it bears to that letter; and, being covered with a variety of trees, affords an entertaining prospect; the west side is also diversified with small eminences.

The city is moderately large, with broad, straight, level streets; and, though not every where paved, are equally convenient, the foot-path near the houses being paved in all parts; and the middle of the streets, being composed of a hard small gravel, is never dirty in rainy weather, nor dusty in the great droughts of this climate; hence the middle of the streets are more convenient for walking than even the pavement itself.

The houses are built of unburnt bricks, as at Quito, and entirely of the same construction: all the houses of note have a story; but the others only a ground floor. An idea of the largeness and convenience of the offices and apartments may be formed by their outward appearance, as well as the magnificence of the furniture, which is all brought from Europe; the expence of which must be enormously great, as, beside the long voyage, there is a necessity for bringing it a prodigious distance by land carriage, and subject to unknown dangers in these countries.

The church was erected into a cathedral in the year 1547, and is the only parochial church in the city. Not that its extent is too small for maintaining others; but, having originally been the only church, the prebends could never be brought to allow of its being subdivided, and part of its revenues applied to the support of other parishes. Here are also convents of Franciscans, Dominicans, and Augustines, with a college of Jesuits; all of them having churches. In the latter is also a grammar school. The plan of an university, under the direction of the same fathers, is in such forwardness, that the charter is already granted. The number of religious belonging to each of these convents is but small, some of them amounting to no more than six or eight. It is, however, very different with regard to one of the nunneries, that of the Incarnation, the professed nuns being between forty and fifty; but the whole number, nuns, seculars, and servants included, exceeds four hundred. The other nunnery is of the order of

Santa Terefa. All these convents and their churches are pretty large; and if the latter do not dazzle the sight with the splendor of their ornaments, they do not want any which decency requires. Here was formerly a convent of bare-footed Carmelites, built on a spacious plain, near the top of the mountain of M, from whence, on account of the sharpness of the winds, the fathers some time after removed to the foot of the mountain. But they were also soon disgusted with their new situation; the dry and salted fish, salads, and such like, being the only particulars which this country affords, suitable to the perpetual abstinence of their order; and accordingly they again retired to their original situation, chusing rather to suffer the inclemency of the weather, than be confined to disagreeable food. This was the case of another convent of the same order founded at Latacunga, where there is also no fresh fish of any sort to be had. It must, however, be observed, that the Terefan convents, who are under the same vow of abstinence, are not discouraged by these inconveniences; nor is there a single instance of any deficiency in the appointed number of nuns.

From the mountain of M issues a river, which by running through the city, besides other conveniences, carries away all its soil. Two bridges are erected over it, one of stone, and the other of wood. The name of this river is del Molino. Its waters have a particular medicinal virtue, which they are thought to derive from the many briars through which they flow. In this mountain is also a spring of very charming water; but, not being sufficient to supply the whole city, it is conveyed to the nunneries, and the houses of men of rank. A little above a league to the north of Popayan runs the river Cauca. It is very large and deep, its current rapid, and subject to dangerous swellings in the months of June, July, and August; the season when the horrors of the mountains of Cuanacas, where it has its source, are at their height; so that the passage of it is extremely dangerous, as many travellers, rashly exposing themselves to the intenseness of its cold, amidst thick snows and violent winds, have fatally experienced.

The inhabitants of Popayan and Quito differ very sensibly in their casts; for, as at Quito, and the other towns and villages of its jurisdiction, the most numerous class of people is that of the casts which sprung from the intermarriages of Spaniards and Indians, so at Popayan, Carthagena, and other parts where Negroes abound, the lower class consists of casts resulting from the marriages of the Whites and Negroes; but very few Indian casts. This is owing to the great multitude of Negro slaves kept as labourers at the plantations in the country, the mines, and to do the servile offices in the city: so that the number of Indians here are very few, compared with the other parts of the province. This government has, however, many large villages of them; and it is only in the capital, and other Spanish towns, that they are so greatly outnumbered by the Negroes.

The inhabitants of Popayan are computed at between twenty and twenty-five thousand; and among these are many Spanish families, particularly sixty, known to have been originally descended from very noble families in Spain. It is worth observing here, that, whilst other towns see their inhabitants constantly decreasing, Popayan may boast of a daily increase. This has indeed nothing mysterious in it; the many gold mines worked all over its jurisdiction, afford employment to the indigent, and, consequently, occasion a great resort of people to these parts.

Popayan is the constant residence of the governor; whose office being purely civil, it is not requisite, as in many others, that he should be acquainted with military affairs. Within the jurisdiction of his government, all matters, civil, political, and military, are under his direction. He is also the chief magistrate of the city; the others are the two ordinary

ordinary *alcaldes*, chosen annually, and a proper number of *regidores*, the constitution being the same as in other cities.

Here is a chamber of finances, into which are paid the several branches of the royal revenue; as the tribute of the Indians, the duties on goods, the fifth of the metals, and the like.

The ecclesiastical chapter is composed of the bishop, whose revenue is settled at six thousand dollars annually; the dean, who has five hundred; the archdeacon, chanter, rector, and treasurer, who have each four hundred. This see is a suffragan of the archbishoprick of Santa Fé de Bogota.

Popayan, lying within the jurisdiction of the inquisition of Carthagená, has a commissary from thence. Here is also another of the *Croisade*; but the authority of these two judges extends not beyond the diocese, which is far less than that of the government, a considerable part of it belonging to the archbishoprick of Quito.

The jurisdiction of the government of Popayan reaches southward to the river Mayo, and to Ipiales, where it borders on the jurisdiction of the town of San Miguel de Ibarra; north-east it terminates with the province of Antioquia, the last of its provinces, and contiguous to that of Santa Fé; and, northward, borders on the government of Carthagená. Its ancient western bounds were the South Sea, but it has since been so contracted by the new government of Choco, that the territory of Barbacoas is the only part of it which reaches to the sea; eastward it spreads itself to the sources of the river Coqueta, which are also thought to be those of the river Oronoco and Negro: its extent is not precisely determined: but a probable conjecture may be made, that from east to west it is about eighty leagues, and little less from north to south. This jurisdiction being so large, and containing many towns and villages, is divided into several departments, over each of which the principal governor nominates a deputy for the administration of justice, and introduces them to the audience to which they belong, where his nomination is confirmed; a circumstance necessary to procure them all the weight and security in the several departments which are conferred on them. Those which form the government of Popayan are,

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|-------------------------------|------------------------|
| I. Santiago di Cali.          | VII. Almaguer.         |
| II. Santa Fé de Antioquia.    | VIII. Caloto.          |
| III. Las Quatro Ciudades.     | IX. San Juan de Pasto. |
| IV. Timana.                   | X. El Raposo.          |
| V. Guadalajara de Buga.       | XI. Barbacoas.         |
| VI. S. Sebastian de la Plata. |                        |

In each of these departments, besides the chief town, are several others very large and well peopled; and great numbers of seats and farm-houses, where the number of people employed gives them the appearance of villages rather than private dwellings.

Of the above-mentioned departments, those towards the north and east of the city of Popayan, as Santa Fé de Antioquia, Las Quatro Ciudades, Timana, and S. Sebastian de la Plata, belong to the audience and province of Santa Fé; the others lying nearer to Quito belong to its province; and those of San Juan de Pasto, and Barbacoas, are within its diocese.

The departments of Cali and Buga, lying betwixt the governments of Popayan and Choco, thrive, as being the channel of the commerce which is carried on continually betwixt

betwixt these two governments : whereas it is otherwise with that of Almaguer, from the smallness of its jurisdiction, and the little traffic there. That of Caloto, as its extent is considerable, so is it rich, and abounds in the products of the earth, the soil being fertile, and the country every where interspersed with farms. That of El Raposo is on the same happy footing as the two first. That of Pasto is also large, but less wealthy. Barbacoas is very small ; and in such a general want of provisions, that, except a few roots and grains peculiar to hot and moist climates, it is supplied with every thing from other provinces.

The temperature of this government is entirely the same as that already spoken of in the other parts of the province of Quito ; that is, it varies according to the situation of places ; some being more cold than hot, others the reverse ; and some, throughout the whole year, enjoy a continual spring, as particularly Popayan the capital. The like may be said of the soil, which exuberantly produces the grains and fruits proper to its situation : and the farms breed great numbers of horned cattle and sheep, for the consumption of the towns and country people : and in the territory of Pasto graziery is a very profitable article, large herds and flocks being driven to Quito, where they always find a good market. The jurisdiction of Popayan is more subject to tempests of thunder and lightning, and earthquakes, than even Quito ; though in the latter, as we have observed, they are so very frequent. No longer ago than 1735, at one in the afternoon on the second of February, the greatest part of the town was ruined by one. This remarkable frequency of tempests and earthquakes, in the country of Popayan, may be conjectured to proceed from the great number of mines, in which it exceeds all the others within the province of Quito.

But of all the parts in this jurisdiction Caloto is accounted to be the most subject to tempests of thunder and lightning ; this has brought into vogue Caloto bells, which not a few persons use, being firmly persuaded that they have a special virtue against lightning. And, indeed, so many stories are told on this head, that one is at a loss what to believe. Without giving credit to, or absolutely rejecting all that is reported, leaving every one to the free decision of his own judgment, I shall only relate the most received opinion here. The town of Caloto, the territory of which contains a great number of Indians, of a nation called Paezes, was formerly very large, but those Indians suddenly assailing it, soon forced their way in, set fire to the houses, and massacred the inhabitants : among the slain was the priest of the parish, who was particularly the object of their rage, as preaching the Gospel, with which they were sensible their savage manner of living did not agree, exposing the folly and wickedness of their idolatry, and laying before them the turpitude of their vices. Even the bell of the church could not escape their rancour, as by its sound it reminded them of their duty to come and receive divine instruction. After many fruitless endeavours to break it, they thought they could do nothing better than to bury it under ground, that, by the sight of it, they might never be put in mind of the precepts of the Gospel, which tended to abridge them of their liberty. On the news of their revolt, the Spaniards in the neighbourhood of Caloto armed ; and, having taken a smart revenge of the insurgents in a battle, they rebuilt the town, and having taken up the bell, they placed it in the steeple of the new church ; since which, the inhabitants, to their great joy and astonishment, observed, that, when a tempest appeared brooding in the air, the tolling of the bell dispersed it ; and if the weather did not every where grow clear and fair, at least the tempest discharged itself in some other part. The news of this miracle spreading every where, great solicitations were made for procuring pieces of it to make clappers for little bells, in order to enjoy the benefit of its virtue, which, in a country where

where tempests are both so dreadful and frequent, must be of the highest advantage. And to this Caloto owes its reputation for bells.

In the valleys of Neyba, and others within the jurisdiction of Popayan, is a very remarkable insect, particularly famous for the power of the small quantity of venom in it. This insect, which is shaped like a spider, is much less than a bug. Its common name is coya, but others call it coyba; its colour is of a fiery red, and, like spiders, it is generally found in the corners of walls, and among the herbage. Its venom is of such a malignity, that, on squeezing the insect, if any happen to fall on the skin of either man or beast, it immediately penetrates into the flesh, and causes large tumours, which are soon succeeded by death. The only remedy hitherto known is, on the first appearance of a swelling, to singe the party all over the body with the flame of straw, or long grass, growing in those plains. In order to this, the Indians of that country lay hold of the patient, some by the feet, and others by the hands, and with great dexterity perform the operation, after which the person is reckoned to be out of danger. But it is to be observed, that though this insect be so very noxious, yet squeezing it between the palms of the hands is attended with no bad consequence; from whence the plain inference is, that the callus, usual on the hands of most people, prevents the venom from reaching the blood. Accordingly the Indian muleteers, to please the curiosity of the passengers, squeeze them betwixt the palms of their hands, though unquestionably, should a person of a delicate hand make a trial, the effects would be the same as on any other part of the body\*.

Nature is equally admirable in her works, and in her care of them. Man is endued with discernment, knowledge, and observation, that he may avoid whatever is hurtful to his being; and the irrational species receive the like notices from instinct, and are not less observant than man. The people who travel along these valleys, where they are so much in danger of these coyas, according to the warning before given them by the Indians who attend them, though they feel something stinging them or crawling on their neck or face, are careful not to scratch the part, nor even so much as lift up their hands to it, the coya being of such a delicate texture that it would immediately burst; and as there is no danger whilst they do not eject the humour in them, the person acquaints some one of the company with what he feels, and points to the place; if it be a coya, the other blows it away. The beasts, who are not capable of such warning, are yet by instinct taught a precaution against the danger which may result from these insects in the pastures; for before they offer to touch the herbage, they blow on it with all their force in order to disperse any of those pernicious vermin; and when their smell acquaints them that they are near a nest of coyas, they immediately leap back and run to some other part. Thus they secure themselves from the venom of these insects, though sometimes a mule, after all its blowing, has been known to take in some with its pasture, on which, after swelling to a frightful degree, they have expired on the spot.

Among the plants of the country of Popayan, in the jurisdiction of Timana, grows the cuca or coca, an herb so esteemed by the Indians in some provinces of Peru, that they would part with any kind of provisions; the most valuable metals, gems, or any thing else, rather than want it. It grows on a weak stem, which for support twists itself round another stronger vegetable, like the vine. Its leaf is about an inch and a half, or two inches in length, and extremely smooth; the use the Indians make of it is for chewing, mixing it with a kind of chalk

\* The Brazilians say, oil and salt is a certain cure for the poison of the coyba. A.

or whitish earth called mambi. They put into their mouth a few cuca leaves, and a suitable portion of mambi, and, chewing these together, at first spit out the saliva which that manducation causes; but afterwards swallow it; and thus move it from one side of the mouth to the other, till its substance be quite drained; then it is thrown away, but immediately replaced by fresh leaves. This herb is so nutritive and invigorating, that they labour whole days without any thing else, and on the want of it they find a decay in their strength: they also add, that it preserves the teeth sound, and fortifies the stomach.

In the southern provinces of Peru great quantities of it are produced, being cultivated by the Indians; but that growing wild in the neighbourhood of Cusco is accounted the best of any. It makes no small article in trade, particularly vast quantities of it are carried to the mine towns, that the owners of the mines may have wherewithal to furnish the Indians, who otherwise could not be brought to work, or would not have strength to go through it.

This coca is exactly the same with the betel of the East Indies. The plant, the leaf, the manner of using it, its qualities, are all the same: and the eastern nations are no less fond of their betel than the Indians of Peru and Popayan are of their coca; but in the other parts of the province of Quito, as it is not produced, so neither is it used.

In Pasto, one of the most southern districts of Popayan, are certain trees which yield a resin called mopa-mopa; and of this is made a varnish, which, besides its exquisite beauty, will bear boiling water, and even acids. The method of applying it is, to dissolve some of the resin in one's mouth, and then wet the pencil with it; afterwards it is dipped in the colour which is to be laid on, and when dried has all the lustre of the Chinese laque, but with this superior quality, that it never wears off, nor becomes moist, though rubbed with spittle. The cabinets, tables, &c. made by the Indians of this country, and thus varnished, are carried to Quito, where they are highly valued.

Popayan is one of the best trading countries within the province of Quito, as all the vast variety of Spanish goods from Carthagena are consigned thither and forwarded to Quito; and great numbers of traders go their rounds through the several jurisdictions, to the great conveniency of the towns and villages, which thus supply themselves. Besides this transitory commerce, it has another reciprocal with Quito, to which it exports horned cattle and mules, and receives in return cloths and bays. Its active commerce consists in dried beef, salted pork, roll-tobacco, hogs'-lard, rum, cotton, pita, ribbons, and other small wares, which are brought to Choco, and there exchanged for gold; sugar and snuff are imported from Santa Fé and sent to Quito; and the returns to Santa Fé are home-made cloths and bays. Here is also another traffic, which consists in bartering silver for gold; for, there being an abundance of the latter, and a scarcity of the former, silver is brought to exchange for gold, of which great profit is made by converting it into doubloons: the like is also practised at Choco and Barbacoas, which are in the same case as to metals.

Popayan being the centre of all these several kinds of commerce, the most wealthy persons of the whole jurisdiction are here, and five or six of its inhabitants are reckoned to be masters of above 100,000 dollars; twenty to be worth betwixt 40 and 80,000, besides many of smaller, yet handsome, fortunes: and this exclusive of their farms and mines, with which this country abounds. The former are the same with those I have had occasion to mention in the other parts of this province, according to the quality of the temperature.

West of the western Cordillera of the Andes, is the government of Atacames, which on this quarter borders on the jurisdictions of the corregimientos of Quito and the town of

of San Miguel de Ibarra; northward on the department of Barbacoas in the government of Popayan; its western boundary is the South Sea; and southward it joins the territory of Guayaquil. Thus it reaches along the coast from the island of Tumaco, and the house of Hufnal, which lie in one degree and a half north latitude, to the bay of Caracas, and the mountains of Balsamo, in 34' south latitude.

The country of this jurisdiction lay a long time uncultivated; and if not wholly, at least the greatest part of it, unknown; for, after its conquest by Sebastian de Belalcazar, the peopling of it was neglected, either because the Spaniards were more intent in regulating their conquests than in improving what they had got, or because the country did not seem to them so proper for a settlement as the tierra or mountainous parts; or perhaps they judged it barren and unhealthy. And though care was taken to furnish Quito with priests, to preserve its Indian inhabitants in an adherence to those precious truths they had embraced; yet it was with the total neglect of that improvement of the country, which was seen in all the other parts where the Spaniards had settled. Thus these people, though Christians by profession, remain in that rusticity and savageness natural to men who are out of the way of rational conversation and commerce to civilize them; an Indian only coming now and then from their woods with aji, achote, and fruits, to sell at Quito, where they seem struck with amazement at the sight of such a concourse of people at one place; it being indeed far beyond what could be imagined by such as seldom or never came to any distance from their poor cottages, dispersed and shut up in the woods, and living among the wild beasts.

Though the country of Atacames lay thus neglected for some years after the introduction of the Christian religion, and its inhabitants had performed homage to the King of Spain; yet the importance of making settlements here, and cultivating the ground, for facilitating the commerce betwixt the province of Quito and the kingdom of Terra Firma, was not unknown, as thereby an end would be put to the inconveniences of carrying it on by the way of Guayaquil; which being a great circuit, the trade suffered in many particulars; and indeed could not long have subsisted, without making a settlement of Spaniards in Atacames; as thus the way would be much shorter for the commerce betwixt Terra Firma and Quito, which now conveniently supplies it with provisions of all kinds, and receives European goods in return.

Pursuant to these views, Paul Durango Delgadillo was, in the year 1621, appointed governor of Atacames and Rio de las Esmeraldas. He had some years before entered into a contract with the Marquis de Montes Claros, for opening a way from the town of San Miguel de Ibarra to the river Santiago, one of those which traversed the country belonging to the jurisdiction of this government; and likewise to people and cultivate it. But failing of fulfilling the agreement, though he was not wanting in endeavours, the government in the year 1626 was taken from him, and conferred on Francisco Perez Menacho, who however had no better success than he who had been displaced.

After these two, came Juan Vincencio Justiniani in the same character; but he, seeing the insuperable difficulties according to the methods of his predecessors, confidently offered to make the way by the river Mira, but also failed in the execution; and Don Hernando de Soto Calderon, who began it in the year 1713, and rather more sanguine in his assurances of success than the former, also disappointed the general expectation; and thus the so much desired communication of the province of Quito and the kingdom of Terra Firma remained as it was till the year 1735, when Don Pedro Vincente Maldonado, being invested with the same powers as his predecessors, surpassed them in execution; and in 1741 laid open a direct communication betwixt Quito and the Rio de las Esmeraldas; and having verified his proceeding before the audiences, and

obtained

obtained their approbation, he returned to Spain, to solicit the confirmation of his employment as governor, and the rewards specified in the contract. On the favourable report of the supreme council of the Indies, His Majesty, in 1746, confirmed him as governor of that country, which, in 1747, was formally erected into a government, by the commission then given to the above gentleman, who by his skill and resolution had so well deserved it.

The towns within the government of Atacames are at present but small and poor, having hitherto lain out of the way of traffic, and the country but little cultivated. However, this governor takes such measures for the improvement of it, that already the face of things begins to alter greatly for the better; and the fertility of the soil will naturally invite settlers, and the communication being opened through it betwixt the kingdom of Terra Firma and the province of Quito, will cause a circulation of money. In the mean time this government contains twenty towns, five of which are on the sea-coast, and stand the first in the following list: the others are inland places:

- |                                |                       |
|--------------------------------|-----------------------|
| I. Tumáco.                     | XI. Tambillo.         |
| II. Tola.                      | XII. Niguas.          |
| III. San Matheo de Esmeraldas. | XIII. Cachillaeta.    |
| IV. Atacames.                  | XIV. Mindo.           |
| V. La Canoa.                   | XV. Yàmbe.            |
| VI. Lachas.                    | XVI. Cocaniguas.      |
| VII. Cayapas.                  | XVII. Canfa Coto.     |
| VIII. Inta.                    | XVIII. Santa Domingo. |
| IX. Gualéa.                    | XIX. San Miguel.      |
| X. Nanegál.                    | XX. Nono.             |

The inhabitants of the five towns are Spaniards, Mestizos, Negroes, and Casts, which sprung from these three species. Those of the other fifteen are in general Indians, having few Spaniards, Mulattos, or Negroes, among them. With the spiritual concerns eleven priests are invested, who continually reside in the great towns, and occasionally visit the others, where are chapels of ease.

The temperature of Atacames is like that of Guayaquil, and accordingly produces the same kinds of vegetables, grains, and fruits, though some of them to a much greater perfection; for, by lying higher, it is not subject to the inundations proceeding from the swelling of rivers: and thus the cacao, in its plantations and forests, having all the moisture that plant delights in, without being drowned, is much superior to the other in size, oiliness, and delicacy of flavour. It likewise produces in great abundance vanillas, achote, sarfaparilla, and indigo; also a great deal of wax is made here: and the forests are so thick set with trees of a surprising bulk and loftiness, as to be impenetrable; and these trees, as in the forests of Guayaquil, are of an infinite variety; some fitter for land works, others for naval uses, and some excellent for both.

#### CHAP. IV. — *Description of the Governments of Quixos and Macas; with an Account of Jean de Bracamoros, the Discovery and Conquest of it.*

NEXT to the government of Popayan, which has been treated of in the foregoing chapter, follow those of Quixos and Macas, on the east side of the Cordillera of the Andes; it is divided into two districts, Quixos being the north part of the government,

and Macas the south, with the country of Camelos lying betwixt them. As their situation and other circumstances require that each should be treated distinctly, I shall begin with Quixos, which on the north side borders on the jurisdiction of Popayan; eastward it reaches to the river Aguarico, and westward is separated from the jurisdictions of Quito, Latacunga, and the town of San Miguel de Ibarra, by the Córdilleras of Cotopaxi and Cayamburo. The first discovery of the country of Quixos is owing to Gonzalo Diaz de Pineda, in the year 1536, who, among the officers sent from Popayan by Sebastian de Belalcazar, to trace the course of the river of Magdalena, and take a survey of the country adjacent to that which had been conquered, was appointed to make discoveries in these parts, which he performed with great care and dispatch; and finding it to abound in gold, and cassia trees, he returned to his commander; and on his report, Gonzalo Pizarro, in the year 1539, at that time governor of Quito, marched to it with a design of reconnoitring its whole extent, and making settlements. But, his expedition miscarrying, the conquest of this country, though from Pineda's report very desirable, was suspended till the year 1549, when the Marquis de Canete, Viceroy of Peru, gave a commission to Gil Ramirez Davalos, a man of undaunted courage when interest was in view, for reducing the Indians and making settlements in the country; which he accordingly accomplished, and founded the town of Baeza, the capital of the government, in the year 1559; and it was soon followed by other towns and villages, still existing; but with very little improvement beyond their first state.

The town of Baeza, though the most ancient of the country, and long the residence of the governors, has always remained very small, which is owing to the building of the two cities of Avila and Archidona, still subsisting, and at that time the chief object of the attention of the settlers, Baeza being left as first built; and these, so far from having increased suitably to the title of cities, which was given them at their foundation, remain on their first footing. The cause of the low state of the places here is the nature of the country, which, in air, fertility, and other enjoyments of life, being inferior to that of Quito, few settle here who can live in the other. Baeza is indeed extremely declined, consisting only of eight or nine thatched houses, with about twenty inhabitants of all ages, so that from the capital it is become annexed to the parish of Papallactá, in which town resides the priest, who has besides under his care another town called Maspu. This decay was no more than a consequence of the removal of the governor, who of late has resided at Archidona.

The city of Archidona is a small place, lying in one degree and a few minutes south of the equinoctial, and about one degree fifty minutes east of the meridian of Quito. The houses are of wood, covered with straw, and the whole number of its inhabitants is reckoned at betwixt 650 and 700, consisting of Spaniards, Indians, Mestizos, and Mulattos; it has only one priest, under whose care are also three other towns, called Misagualli, Tena, and Napo; the last receives its name from the river on the borders of which it stands; and this situation proved its ruin on the 30th of November 1744, when, by the explosion of the Volcano, or Cotopaxi, of which a more particular account shall be given in another place, this river became so swelled by the torrents of melted snow and ice, that it entirely bore down the town of Napo, and the houses were carried along by the impetuosity of the current.

The city of Avila, but very much below that title, stands on  $0^{\circ} 44''$  S. lat. and near  $2^{\circ} 20''$  E. of Quito. It is so much less than the former, that its inhabitants scarce amount to 300 of both sexes. Its houses are built of the same materials. It has also a

priest, whose ecclesiastical jurisdiction comprehends six towns, some of them in largeness and number of inhabitants not inferior to the city. These are,

- |                    |                 |
|--------------------|-----------------|
| I. La Concepcion.  | IV. Motte.      |
| II. Loreto.        | V. Cota Pini.   |
| III. San Salvador. | VI. Santa Rosa. |

The foregoing towns constitute the chief part of this government ; but it also includes the towns of the mission of Sucumbios, the chief of which is San Miguel. At the beginning of this century they were ten, but are now reduced to these five :

- I. San Diego de los Palmares.
- II. San Francisco de los Curiquaxes.
- III. San Joseph de los Abuccèes.
- IV. San Christoval de los Yaguages.
- V. San Pedro de Alcantara de la Cacao, or Nariguera.

The inhabitants of the two cities, and the villages in the dependencies, and those of Baeza, are obliged to be constantly upon their guard against the infidel Indians, who frequently commit depredations among their houses and plantations. They compose different and numerous nations ; and are so dispersed all over the country, that every village is under continual apprehensions from those which live in its neighbourhood : and when an action happens between the inhabitants and those Indians to the advantage of the former, all they get by it is to return quietly to their dwellings with a few prisoners, no booty being to be had from a people who live without any settlement ; and from mere savageness make no account of those things in which the bulk of mankind place their happiness. Their method in these incursions is, after an interval of apparent quiet and submission, to steal up to the Spanish settlements at a time when they have reason to conclude that the inhabitants are off their guard ; and if their intent be answered, they fall to pillaging and plundering ; and, having got what is nearest at hand, retire with all speed. This perpetual danger may also be reckoned among the causes which have hitherto kept the government in such low circumstances.

The temperature of all this country is hot and very moist. The rains are almost continual ; so that the only difference betwixt it, Guayaquil, and Porto Bello, is, that the summer is not so long : but the distempers and inconveniencies of the climate are the same. The country is covered with thick woods ; and in these are some trees of a prodigious magnitude. In the south and west part of the jurisdiction of Quixos is the canela or cinnamon-tree, which, as I have before observed, being discovered by Gonzalo Diaz de Pineda, he, from them, called the country Canelos, which name it still retains. A great quantity of it is cut for the necessary consumption, both in the province of Quito and in Valles. The quality of this cinnamon does not come up to that of the East Indies ; but in every other particular very much resembles it ; the smell, its circumference, and thickness, being nearly the same : the colour is something browner, the great difference lying in the taste, that of Quixos being more pungent, and without the exquisite flavour of that of the East Indies. The leaf is the same, and has all the delicate smell of the bark ; but the flower and seed surpass even those of India ; the former particularly is of an incomparable fragrancy, from the abundance

abundance of aromatic parts it contains, and this favours an opinion, that the trees duly cultivated might be made in every respect equal to those of the island of Ceylon.

The other products in the island of Quixos are the very same with those in all the other lands in the same climate as this government. The like may be said of fruits, roots, and grains, as wheat, barley, and others, which, requiring a cold air, seldom thrive much in any of an opposite quality.

The other district of Macas is bounded on the east by the government of Maynas; southward by that of Bracamoros and Yaguarfongo; and westward, the east Cordillera of the Andes divides it from the jurisdiction of Rio Bamba and Cuenca. Its chief town bears the splendid title of the city of Mucas, being the common name given to the whole country. And this is better known than its proper ancient name of Sevilla del Oro. It lies in  $2^{\circ} 30''$  S. lat., and  $40''$  E. of Quito. Its houses, which do not exceed one hundred and thirty, are built of timber, and thatched. Its inhabitants are reckoned at about one thousand two hundred; but these, and it is the same all over this district, are generally Mestizos with Spaniards. The other towns belonging to this jurisdiction are:

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|---------------------------|----------------|
| I. San Miguel de Narbaes. | V. Zuna.       |
| II. Barahonas.            | VI. Payra.     |
| III. Yuquipa.             | VII. Copueno.  |
| IV. Juan Lopez.           | VIII. Aguayos. |

The spiritual government of them all is lodged in two priests; one of whom residing in the city has the care of the four first; and to the latter, who lives at Zuna, belong that town and the three others. At the conquest, and for some time after, this country was very populous, and, in honour of the great riches drawn from its capital, was distinguished by the name of Sevilla del Oro; but at present only the memory of its former opulence remains. Such an extreme declension proceeded from an insurrection of the natives, who, after swearing allegiance to the King of Spain, took arms, and made themselves masters of the city of Logrono, and a town called Guamboya, both in the same jurisdiction, and very rich. These devastations have so discouraged any further settlement there, that the whole country lies as a waste; no money goes current in it, and the only way the wretched inhabitants have to provide themselves with necessaries is by bartering their home products.

The nearness of Macas to the Cordillera of the Andes causes a sensible difference betwixt its temperature and that of Quixos: for though it be also a woody country, the diversity betwixt the two most distant seasons of the year is manifest; and as its territory is different from that of the jurisdiction of Quito, so the variety in the periods of the season is also great. Thus winter begins here in April, and lasts till September, which is the time of summer betwixt the Cordilleras: and at Macas the fine season is in September, and is the more delightful on account of the winds which are then mostly northward: and thus charged with the frigorific particles which they have swept away from the snowy mountains over which they have passed. The atmosphere is clear; the sky serene; the earth clothed in its various beauties; and the inhabitants, gladdened by such pleasing objects, rejoice that the horrors of winter are passed, as they are no less dreadful and detrimental here than at Guayaquil.

In grains and other products which require a hot and moist temperature, the country is very fruitful; but one of the chief occupations of the country people here, is the culture of tobacco, which, being of an excellent kind, is exported in rolls all over

Peru. Sugar canes also thrive well here; and consequently cotton. But the dread of the wild Indians, who have often ravaged their country, discourages them from planting any more than what just suffices for present use; they being here in the same unhappy situation as in Quixos, the villages having in their neighbourhood bands of those savage Indians; and when they imagine them to be furthest off, are often suddenly assaulted by them, so that they must be ready at every instant to take arms.

Among the infinite variety of trees which crowd the woods of this country, one of the most remarkable is the storax, the gum of which is of a most exquisite fragrancy; but is rare, the trees growing in places at some distance from the villages; and it is dangerous going to them, by reason of the savage Indians, who lie in wait like wild beasts. The like may be said with regard to the mines of Polvos Azules, or Ultramarine, from which, by reason of that danger, very little is brought; but a finer colour cannot be imagined.\*

The territory belonging to Macas also produces cinnamon-trees, which, as the Reverend Don Juan Joseph de Lozay Acuna, priest of Zuna, a person of eminent learning, and perfectly versed in natural history, told me, is of a superior quality to that of Ceylon, here known by the name of Spanish cinnamon; and this was confirmed to me by many other persons of judgment. This cinnamon visibly differs from that of Quixos, which, as the same person informed me, proceeds from the full exposure of the Maca trees to the sun, its rays not being intercepted by the foliage of any other trees near them; and these also are at a distance from the roots of other trees, which deprive them of part of the nourishment necessary to bring it to perfection. And this opinion is confirmed by a cinnamon tree planted either accidentally or by design, near the city of Macas, the bark of which, and especially the blossom, in its taste, fragrancy and aromatic power, far exceeds that of the East Indies.

Great quantities of copal are brought from Macas, also wild wax; but the latter of little value, for, besides being reddish, it never indurates; and the smell of it, when made into candles, and these lighted, is very strong and disagreeable; and that of Guayaquil and Valles no better. Indeed all the wax in those countries cannot come into competition with those of Europe; though it must be observed, that there is no small difference in the bee, which in this country is much larger, and its colour inclinable to black. However, it might be made something better, if the inhabitants were acquainted with the art of cleansing and working it as in Europe; and if it could not be brought to equal the European, a greater confidence might be given to it, which would be no small advantage.

The government, which on the south limits the jurisdiction of the audience of Quito, and follows next to Macas, is that of Jaen, which was discovered and subdued by Pedro de Vargara in the year 1538, whom Hernando Pizarro had appointed to command in that expedition. Afterwards Juan de Salinas entered the country, with the title of governor of it; and he having by his courage and courtesy reduced the Indians, and ingratiated himself with them, a more formal settlement was made, and several towns built, which are still existing, though in no better condition than those of Macas and Quixos. Some still retain the appellation of city, not that their largeness, number of inhabitants, or wealth, become the title, but on account of the privileges annexed to it.

At the time of the conquest this government was known by the names of Igualfongo and Pacamoros, since corrupted into Yaguarfongo and Bracamoros; the names of the

\* Probably mountain blue, an ore of copper. Ultramarine is, from the lapis lazuli, unknown in America.

government conferred on Juan de Salinas. And thus they continued to be called for many years, till the Indians of both territories in a sudden revolt destroyed the principal towns. Those which were spared, after passing near an age in wretchedness and barbarism, happily recovered themselves, became united to the city of Jaen, as part of a government, with the title of Jaen de Bracamoros; and the title of governor of Yaguarfongo, was as before related, kept up by being annexed to the corregidor of Loja.

The town of Jaen, with the addition of Pacamoros, or Bracamoros, from the reunion of the towns of that country to it, was founded in the year 1549, by Diego Palomino. It stands in the jurisdiction of Chaca-Inga, belonging to the province of Chuquimayo, and is the residence of the governor. It is situated on the north shore of the river Chinchipe, at its conflux into the Marañon. It lies in about  $5^{\circ} 25'$  south latitude, and its longitude may be conjectured to be very little distant from the meridian of Quito, if not under it. The account given of the mean condition of the cities of Macas and Quixos also suits Jaen. We must however observe, that it is much more populous, its inhabitants being, of all ages and sexes, computed at three or four thousand; though these, for the most part, are Mestizos, with some Indians, but very few Spaniards.

Juan de Salinas likewise found in his government of Yaguarfongo three other cities, still subsisting, but small, mean, and defenceless, like Jaen. Their names are Valladolid, Loyola, and Santiago de las Montañas: the last borders on the government of Minas, and is only separated from its capital, the city of Borja, by the Pongo de Manceriche. In this country of Jaen de Bracamoros are several small villages:

- |                |                |
|----------------|----------------|
| I. San Joseph. | VI. Chinchipe. |
| II. Chito.     | VII. Chyrinos. |
| III. Sander.   | VIII. Pomaca.  |
| IV. Charape.   | IX. Tomepènda. |
| V. Pucará.     | X. Chucunga.   |

The inhabitants of which are mostly Indians, with some Mestizos, but no great number of either.

Though Jaen stands on the bank of the river Chinchipe, and so near the Marañon, yet the latter is not navigable up to it: so that those who are to embark on it, go by land from Jaen to Chuchunga, a small place on another river of that name, and in  $25^{\circ} 29'$  latitude, whence they fall down into the Marañon. This town, which may be accounted the port for Jaen, lies four days journey from the city, which is the method of calculating the distances here; the difficulties of the road increasing them far beyond what they are in reality, that not seldom that which on good ground might be travelled in an hour or two, takes up a half and sometimes a whole day.

The climate of Jaen, and the same may be said of the whole jurisdiction of this government, is like that of Quixos, except that the rains are neither so lasting nor violent; and, like that of Macas, it enjoys some interval of summer; when the heats, tempests, and all the inconveniences of winter, abate. The soil is fruitful in all the grains and products agreeable to its temperature. The country is full of wild trees, particularly the cacao, the fruit of which, besides the exuberance of it on all the trees, is equal to that cultivated in plantations; but is of little use here for want of consumption: and the carriage of it to distant parts would be attended with such charges

as to prejudice its sale. Thus the fruits rot on the trees, or are eaten by monkeys or other creatures.

At the time of its first discovery, and the succeeding conquest, this country was in great repute for its riches; and not undeservedly, vast quantities of gold being brought from it. But these gains were soon brought to a period by the revolt of the Indians, though in the opinion of many, who look upon those people to be a part of the human species no less than themselves, the insurrection was owing to the excessive rigour of the Spaniards, in making them work in the mines under insupportable fatigues. At present, all the gold collected here is by Indians washing the sands of the rivers during the time of the inundations; and thus find gold dust, or small grains of gold, with which they pay the tributes, and purchase necessities; and they make so little account of this metal, that though by a proper industry they might get a considerable quantity, it is only the poorest Indians that live near the settlements who practise it; as for the independent Indians, they give themselves no concern about it.

The jurisdiction of this government produces in particular vast quantities of tobacco; the cultivation of it indeed is the chief occupation of all the inhabitants. After steeping the plant in hot mead, or decoctions of fragrant herbs, in order to improve its flavour, and the better to preserve its strength, it is dried, and tied up in the form of a fascisson, each of a hundred leaves. Thus it is exported into Peru, all over the province of Quito, and the kingdom of Chili, where no other is used for smoking, in cornets of paper, according to the custom of all these countries. This great vogue it owes to the manner of preparing the leaves, which gives it a particular relish, and a strength to its smoke, that is very agreeable to those who are fond of that amusement. The country also produces a great deal of cotton; likewise large breeds of mules; and these three articles constitute the advantageous traffic which this government carries on with the jurisdiction of its province and the other parts of Peru.

In the countries of Jaen de Bracamoros, Quixos, and Macas, are seen great numbers of those wild animals, a description of which has been given in treating of other countries of a like climate. But these, besides tigers, are infested with bastard lions, bears, dantas or grand bestias (an animal of the bigness of a bullock, and very swift, its colour generally white, and its skin very much valued for making buff leather; in the middle of its head is a horn bending inward). Those three kinds of wild beasts are unknown in the other countries; and that they are known here, is owing to the proximity to the Cordilleras, where they breed, as in a cold climate adapted to their nature: whence they sometimes come down into the neighbouring countries; but without this circumstance of lying so near the mountains, they would never be seen. Among the reptiles in the country is themaca, a snake which the Indians distinguish by the name of Curi-Mullinvo, having a shining spotted skin like that of the tiger, Curi in the Indian language signifying gold; it is wholly covered with scales, and makes a frightful appearance, its head being out of all proportion to the body, and has two rows of teeth, and fangs like those of a large dog. The wild Indians, as an ostentatious mark of their intrepidity, and to give them a more terrible appearance, paint on their targets figures of this snake, the bite of which is incurable; and wherever it has seized, it never lets go its hold; which the Indians would also intimate by their device.

CHAP. V. — *Government of Maynas, and of the River Marañon, or that of the Amazons; its Discovery, Course, and that of the Rivers running into it.*

HAVING treated of the governments of Popayan and Jean de Bracamoros, which are the northern limits of the province of Quito; as also of Atacames, which is its western boundary; I now proceed to the government of Maynas, the eastern limit of its jurisdiction. This is particularly entitled to a separate and succinct description, as the great river Marañon flows through it.

The government of Maynas lies contiguous to those of Quixos and Jean de Bracamoros, towards the east. In its territories are the sources of those rivers, which, after rapidly traversing a vast extent, form, by their conflux, the famous river of the Amazons, known also by the name of Marañon. The shores of this and many rivers which pay it the tribute of their waters, environ and pervade the government of Maynas. Its limits, both towards the north and south, are little known, being extended far among the countries of infidel Indians; so that all the account which can be expected is from the missionaries employed in the conversion and spiritual government of the wild nations which inhabit it. Eastward it joins the possessions of the Portuguese, from which it is separated by the famous line of demarcation, the boundary between the Spanish and Portuguese possessions.

Were I to confine myself in general to the extent of the government of Maynas, my description would be very imperfect, and want the noblest object of the reader's curiosity, a description of the river of the Amazons; a subject no less entertaining than unknown; and the more difficult of obtaining a thorough knowledge of, from its lying so very remote. This description I shall divide into the three following heads, which shall contain its source, and the principal rivers whereof it is composed; its course through the vast tracts of land it waters; its first discoveries, and the subsequent voyages made on it; in order to give an adequate idea of this prince of rivers; and at the same time a more circumstantial account of the government of Maynas.

I. — *Of the Source of the River Marañon, and of the many others which compose it.*

As, among the great number of roots by which nourishment is conveyed to a stately tree, it is difficult, from the great length of some, and the magnitude of others, to determine precisely that from which the product is derived; so the same perplexity occurs in discovering the spring of the river Marañon; all the provinces of Peru as it were emulating each other in sending it supplies for its increase, together with many torrents which precipitate themselves from the Cordilleras, and, increased by the snow and ice, join to form a kind of sea of that which at first hardly deserves the name of a river.

The sources by which this river is increased are so numerous, that very properly every one which issues out of the eastern Cordillera of the Andes, from the government of Popayan, where the river Caqueta or Yupura has its source, to the province of Guanuco, within thirty leagues of Lima, may be reckoned among the number. For all the streams that run eastward from this chain of mountains, widening as they advance from the source by the conflux of others, form those mighty rivers, which afterwards unite in the Marañon; and though some traverse a larger distance from their source, yet others, which rise nearer, by receiving in their short course a greater num-

ber of brooks, and, consequently, discharging a quantity of water, may have an equal claim to be called the principal source. But without confidently determining this intricate point, I shall first consider the sources of those which run into it from the more remote distances, and next, those which precipitate themselves down several cascades formed by the crags of the Andes, and, after being augmented by others it receives, join the Marañon in a more copious stream; leaving it to the reader to determine which is the original source.

The most received opinion, concerning the remotest source of the river Marañon, is that which places it in the jurisdiction of Tarma, issuing from the lake of Lauricocha, near the city of Guanuco, in  $11^{\circ}$  south latitude, whence it directs its course south almost to  $12^{\circ}$  through the country belonging to this jurisdiction; and, forming insensibly a circuit, flows eastward through the country of Juaxa; where, after being precipitated from the east side of the Cordillera of the Andes, proceeds northward; and, leaving the jurisdictions of Mayabamba and Chacha-poyas, it continues its course to the city of Jaen, the latitude of which, in the foregoing chapter, has been placed in  $5^{\circ} 21'$ . There, by a second circuit, it runs towards the east in a continual direction; till at length it falls into the ocean, where its mouth is of such an enormous breadth, that it reaches from the equinoctial to beyond the first degree of north latitude. Its distance from Lauricocha lake to Jaen, its windings included, is about two hundred leagues; and this city being  $30^{\circ}$  to the west of its mouth, is six hundred leagues from it, which, with the several circuits and windings, may, without excess, be computed at nine hundred such leagues: so that its whole course, from Lauricocha to its influx into the ocean, is at least one thousand one hundred leagues.

Yet the branch which issues from Lauricocha is not the only one flowing from these parts into the Marañon; nor is it the most southern river which discharges its waters into that of the Amazons; for, south of that lake, not far from Afangara, is the source of the river which passes through Guamanga. Also in the jurisdictions of Vilcas and Andaguaylas are two others, which, after running for some time separately, unite their streams, and discharge themselves into the river issuing from the lake Lauricocha. Another rises in the province of Chimbi-Vilcas. And, lastly, one still farther to the south, is the river Apurimac, which, directing its course to the northward, passes through the country of Cusco, not far from Lima-Tambo; and after being joined by others, falls into the Marañon about one hundred and twenty leagues east of the junction of the latter with the river Santiago. But here it is of such a width and depth, as to leave a doubt whether it insinuates itself into the Marañon, or the Marañon pays tribute to the Ucayale, as it is called in that part; since at the conflux its impetuosity forces the former to alter the straight direction of its course, and form a curve. Some will have the Ucayale to be the true Marañon, and found their opinion on the remoteness of its source, and the quantity of its waters, which equals at least, if it does not exceed, that of Lauricocha.

In the space intercepted between the junction of the Marañon and the river Santiago, are the Pongo de Manzeriche, and the mouth of the river Ucayale; and about midway betwixt them the river Gualaga, which has also its source in the Cordilleras, east of the province of Guamanga, and falls into the Marañon. One of the rivers contributing to its increase has its rise in the mountains of Moyo-Bamba; and on its banks, in the middle of its course towards the Gualaga, stands a small village called Llamas; which, according to the most credible accounts, was the place where Pedro de Orfica embarked with his people on his expedition for the discovery of the Marañon, and the conquest of the adjacent countries.

Eastward

Eastward of Ucayale, the Marañon receives the river Yabari, and afterwards four others, namely, the Yutay, Yurua, Tefe, and Coari; all running from the south, where they have their source nearly in the same Cordilleras as that of the Ucayale; but the countries through which the latter passes being inhabited by wild Indians, and consequently but little known to the Spaniards, its course, till its junction with the Marañon, cannot be ascertained: and it is only from vague accounts of some Indians, that in certain months of the year it is navigable. There is indeed a tradition of voyages made upon it, and by which it was perceived to run very near the provinces of Peru.

Beyond the Rio Coari, eastward, the Cuchibara, also called the Purus, joins the Marañon; and after that likewise the Madera, one of the largest rivers that unite their waters with it. In 1741, the Portuguese sailed up it, till they found themselves not far from Santa Cruz de la Sierra, betwixt  $17^{\circ}$  and  $18^{\circ}$  of south latitude. From this river downwards, the Marañon is known among the Portuguese by the name of the river of the Amazons: upwards they give it the name of the river of Solimoes. Within a small distance follows the river of Topayos, likewise very considerable; and which has its source among the mines of Brazil. After these, it is further joined by the rivers Zingu, Dos Bocas, Tocantines, and Muju, all issuing from the mines and mountains of Brazil; and on the eastern shore of the latter stands the city of Gran Para.

Having thus given an account of the most distant branches of the stately river of Marañon, and of the principal ones which join it from the south, I proceed to those, the sources of which are nearer, issuing from the Cordilleras, and which immediately run into the eastern direction; and also those which join it from the north.

In the mountains and Cordilleras of Loja and Zamora rise several little rivers, the conflux of which forms that of Santiago; and from these of Cuenca, others which unite in the Paute: but this, on its union with the former, loses its name, being absorbed by the Santiago, (so called from a city of that name) near which it joins the two others from Lauricocha and Apurimac. The river Morona issues from the lofty deserts of Sangay; and passing very near the city of Macas, runs in a south-east course, till it loses itself in the principal channel of the Marañon; which happens at the distance of about twenty leagues east of Borja, the capital of the government of Maynas.

In the mountains of the jurisdiction of Riobamba, those of Latacunga, and the town of San Miguel de Ibarra, are the sources of the rivers Pastaza and Tigre; and from Cotopaxi and its Cordillera issue the first branches of the rivers Coca and Napo. These, though their sources are at no remarkable distance, run to a great extent before they join; and retaining the name of Napo, fall into the Marañon, after a course of above two hundred leagues in a direct line from east to west, with some, though insensible, inclinations to the south. This is the river which father Christopher de Acuna, who will be mentioned hereafter, takes for the true Marañon, to which, as exceeding all the rest in largeness, the others may be said to add their waters.

From the mountains of the jurisdiction of San Miguel de Ibarra, and those of Pasto, issues the river Putu-mayo, called also Ica, which, after running south-east and east about three hundred leagues, joins the Marañon much more eastward than the river Napo: lastly, in the jurisdiction of Popayan, the river Caqueta has its origin, which becomes divided into two branches; the western, called Yupura, disembogues itself into the Marañon like another Nile, through seven or eight mouths, and these are at such a distance, that the intermediate space betwixt the first and the last is not less than one hundred leagues; and the other, which runs to the eastward, is not less famous under the name of Negro. M. de la Condamine, in the narrative of his voyage, confirms the opinion of its being one of the communications betwixt the

Oronoque and Marañon; and corroborates his assertion, by the authority of a map composed by father John Ferreira, rector of the college of Jesuits in the city of Gran Para; in which he observes, that in the year 1744, a flying camp of Portuguese, posted on the banks of the Negro, having embarked on that river, went up it, till they found themselves near the Spanish missions on the river Oronoque, and meeting with the superior of them, returned with him to the flying camp on the river Negro, without going a step by land; on which, the author makes this remark, that the river Caqueta, (already mentioned, and so called from a small place by which it passes, near its source) issuing from Mocoa, a country joining eastward to Almaguar in the jurisdiction of Popayan, after running eastward with a small declension towards the south, divides itself into two branches; one of which declining a little more southward, forms the river Yupura, and after separating into several arms, runs, as we have noted above, into the Marañon, through seven or eight mouths; and the other, after a course eastward, subdivides itself into two branches, one of which, running north-east, joins the Oronoque; and the other, in a south-east direction, is the river Negro. This subdivision in the branches of large rivers, and their opposite courses, though something extraordinary, is not destitute of probability; for a river flowing through a country every way level, may very naturally divide into two or more branches, in those parts where it meets with any inclination, though almost insensible, in the ground. If this declivity be not very great, and the river large and deep, it will easily become navigable every where, with a free passage from one arm into the other. And in this manner the marshes are formed in a level country, as we have particularly remarked in the coast of Tumbez: for the sea-water on the flood running into these various mouths, which sometimes are twenty leagues distant or more, a vessel enters one arm by the favour of the tide; but coming to a place where the soil rises, the stream runs against her, being the water which the same flood had impelled through another channel. Thus the ebb causes the waters to separate at that point; and each portion of water takes the same course at going out as at its entrance; yet the place where the separation is made is not left dry. But even though the place where the waters of the river Caqueta are separated should not be level, or nearly horizontal, but lie on a considerable declivity, yet if this fall be equal on both sides, one part of the waters may take its course to the Oronoque, and the other to the Negro, without any other consequence than that the great rapidity would render them impracticable to navigation; but this has nothing to do with the division of the waters, it being no more than forming an island either large or small.

From the province of Quito there are three ways to the river Marañon; but all extremely troublesome and fatiguing, from the nature of the climate, and being full of rocks, that a great part of the distance must be travelled on foot; for being so little frequented, no care has been taken to mend them, whence they are even more dangerous than the others in South America, of which we have given a description.

The first of these roads, which is the nearest to the town of Quito, runs through Baza and Archidona; where you embark on the river Napo. The second is by Hambato and Papate, at the foot of the mountain of Tunguragua; and from thence the road lies through the country of Canelos, watered by the river Bobonaza, which joining the Pastaza, both discharge themselves into the Marañon. The third lies through Cuenca, Loja, Valladolid, and Jaen, from whence at the village of Chuchunga, which is as it were its port, this river becomes navigable; and here all embark who are either going to Manas, or a longer voyage on this river. Of the three, this alone is practicable to beasts; but the tediousness of the distance from Quito renders it the least frequented; for the missionaries, who take these journeys oftener than any other set of men

men, in order to avoid its circuit, and the danger of the pass of Manzeriche, prefer the difficulties and dangers to the others.

In the long course of this river from Chuchunga, are some parts where the banks, contracting themselves, form streights, which, from the rapidity of the waters, are dangerous to pass. In others, by a sudden turn of its direction, the waters are violently carried against the rocks; and in their repercussion, form dangerous whirlpools, the apparent smoothness of which is no less dangerous than the rapidity in the streights. Among these, one of the most dangerous is that betwixt Santiago de las Montanas and Borja, called Pongo de Manzeriche; the first word of which signifies a door or entrance, and by the Indians is applied to all narrow places; the second is the name of the adjacent country.

The Spaniards who have passed this streight make the breadth of it to be no more than twenty-five yards, and its length three leagues; and that, without any other help than merely the current of the water, they were carried through it in a quarter of an hour. If this be true, they must move at the rate of twelve leagues an hour; a most astonishing velocity! But M. de la Condamine, who examined it with particular attention, and to whose judgment the greatest deference is due, is of opinion, that the breadth of the Pongo, even in its narrowest part, is twenty-five toises; and the length of the Pongo about two leagues, reckoning from the place where the shores begin to approach, as far as the city of Borga. And this distance he was carried in fifty-seven minutes. He observes also, that the wind was contrary; and consequently his balza did not go so far as the current would otherwise have carried her; so that, making allowance for this obstruction, the current may be stated at two leagues and a half, or at three leagues an hour.

The breadth and depth of this river is answerable to its vast length; and in the pongs or streights, and other parts where its breadth is contracted, its depth is augmented proportionally. And hence many are deceived by the appearance of other rivers which join it, their breadth causing them to be taken for the real Maranon; but the mind is soon convinced of its error, by observing the little increase which the Maranon receives from the influx of them. This large river, by continuing its course without any visible change in its breadth or rapidity, demonstrates that the others, though before the object of astonishment, are not comparable with it. In other parts it displays its whole grandeur; dividing itself into several large branches, including a multitude of islands, particularly in the intermediate space between the mouth of the Napo and that of the Coari, which lies something to the westward of the river Negro; where, dividing itself into many branches, it forms an infinite number of islands. Betwixt the mission of Peba, which is at present the last of the Spanish, and that of San Pablo the first of the Portuguese, M. de la Condamine, and Don Pedro Maldonado, having measured the breadth of some of these branches, found them nearly equal to nine hundred toises, that is, almost a sea league. At the influx of the river of Chuchunga, the place where the Maranon becomes navigable, and where M. de la Condamine first embarked on it, he found its breadth to be one hundred and thirty five toises: and though this was near its beginning, the lead did not reach the bottom at twenty-eight toises, notwithstanding this sounding was made at a great distance from the middle of the river.

The islands formed by the Maranon east of the Napo, terminate at the river Coari, where it again reunites its waters, and flows in one stream: but here its breadth is from one thousand to twelve hundred toises, or near half a league; and here the same ingenious gentleman, after taking all possible precautions against the current, as he had before at the mouth of the river Chuchunga, sounded, but found no bottom with one hundred

hundred and three fathom of line. The river Negro, at the distance of two leagues from its mouth, measured twelve hundred toises in breadth, which being nearly equal to that of the principal river, and some of those we have named, Ucayale, the Madera, and others, were found to be nearly of the same width.

About one hundred leagues below the mouth of the river Negro, the shores of the Marañon begin to approach each other near the efflux of the river Trumbetas, which part is called the Estrecho de Pauxis, where, as also at the posts of Peru, Curupa and Macapa, along its banks, and on these east of the rivers Negro and Popayos, the Portuguese have forts. At the Estrecho de Pauxis, where the breadth of the river is near nine hundred toises, the effect of the tides may be perceived; though the distance from the sea-coasts be not less than two hundred leagues. This effect consists in the waters, which, without any change in the direction of their course, decrease in their velocity, and gradually swell over their banks. The flux and reflux are constant every twelve hours, with the natural differences of time. But M. de la Condamine, with his usual accuracy, as may be seen in the narrative of his own voyage, observed that the flux and reflux perceived in the ocean, on any certain day and hour, is different from that which is felt at the same day or hour, in the intermediate space between the mouth of the river and Pauxis, being rather the effect of the tides of the preceding days; proportional to the distance of the place from the river's mouth; for as the water of one tide cannot flow two hundred leagues within the twelve hours, it follows, that having produced its effect to a determined distance during the space of one day, and renewing it in the following by the impulse of the succeeding tides, it moves through that long space with the usual alternation in the hours of flood and ebb; and in several parts these hours coincide with those of the flux and reflux of the ocean.

After flowing through such a vast extent of country, receiving the tribute of other rivers precipitated from the Cordilleras, or gliding in a more gentle course from remote provinces; after forming many circuits, cataracts, and streights; dividing itself into various branches, forming a multitude of islands of different magnitudes, the Marañon at length, from the mouth of the river Xingu, directs its course north-east and enlarging its channel in a prodigious manner, as it were to facilitate its discharge into the ocean, forms in this astonishing space several very large and fertile islands; of which the chief is that of Joanes or Marayo, formed by a branch of the great river which separates from it twenty-five leagues below the mouth of the Xingu; and directing its course to the southward, in a direction opposite to that of the principal stream, opens a communication between the Marañon and the river of Dos Bocas, which has before received the waters of the Guanapu and Pacayas, and flows into it through a mouth of above two leagues in breadth. These are afterwards joined by the river Tocantines; the outlet of which is still broader than the former, and at a still greater distance: the river of Muju, on the eastern side of which stands the city of Gran Para, discharges its waters into the same stream; and it afterwards receives the river Capi, which washes the city of the same name.

The river of Dos Bocas, after joining that of Tagipuru, runs eastward, forming an arch as far as the river of Tocantines, from which it continues north-east like the Marañon, leaving in the middle the island of Joanes, which is nearly of a triangular figure, except the south side about one hundred and fifty leagues in length, and forms the arch of a circle. This island divides the Marañon into the two mouths, by which that river disembogues itself into the sea. The principal of these two mouths from Cape Maguari in this island, and the North Cape, is about forty-five leagues broad; and that of the channel

channel of Tagipuri, as likewise of the rivers which have joined it, from the same Cape Maguari to Tigioca point, is twelve leagues.

This river, which exceeds any one mentioned either in sacred or profane history, has three names; and is equally known by them all, each implying its stupendous majesty, and importing its superiority to any other in Europe, Africa, or Asia. And this seems to have been intended by the singularity of its having three different names; each of them enigmatically comprehending those of the most famous in the other three parts of the world; the Danube in Europe, the Ganges in Asia, and the Nile in Africa.

The names which express the grandeur of this river are the Maranon, the Amazons, and the Orellana. But it is not known with certainty that either of them was the original, before its discovery by the Spaniards, given it by the Indians, though probably it was not without many; for as various nations inhabited its banks, it was natural for every one to call it by a particular name, or at least to make use of that which had been previously given it. But either the first Spaniards who sailed on it neglected this enquiry, or the former names became confounded with others given it since that epocha, so that now no vestiges of them remain.

The general opinion prefers, in point of antiquity, that of Maranon, though some authors will have it posterior to the two others; but we conceive they are mistaken, both in their assertion, and in the cause of that name. They suppose that it was first given to this river by the Spaniards, who sailed down it under the conduct of Pedro de Orsua, in 1560 or 1559; whereas it had been known by that name many years before: for Pedro Martyr in his Decades, speaking of the discovery of the coast of Brazil, in the year 1500, by Vincente Yanez Pinzon, relates, among other things, that they came to a river called Maranon. This book was printed in the year 1516, long before Gonzalo Pizarro undertook the discovery of the river, and conquest of the adjacent nations who inhabited its banks; or Francisco de Orellana had sailed on it. This demonstrates the antiquity of the name of Maranon; but leaves us under the same difficulties with regard to its date and etymology. Some, following Augustine de Zarate, attribute the origin of this name to a Spanish commander called Maranan, from whom, as being the first that displayed the Spanish ensign on this river, it was thence called after his own name. But this opinion is rather specious than solid, being founded only on the similarity of the names, a very exceptionable inference, especially as no mention is made of any such officer in any history published of these discoveries and conquests; whence it seems natural to conclude, that Zarate, on hearing that the river was called Maranon, inferred that the name was taken from some person of eminence who had made an expedition on it. For had he known any thing further, he doubtless would have enriched his history with some of the adventures of the discovery of it; for if he had not thought them sufficiently interesting, it is something strange that all the Spanish historians should be in the same way of thinking, and concur to suppress the memory of a Spaniard whose name was thought worthy to be given to the most distinguished river in the world. But what carries along with it a much greater air of probability is, that Vincente Yanez Pinzon, upon his arrival in the river, heard it called by the Indians who inhabited its islands and banks, Maranon, or some name of a similar sound; and thence Vincente Yanez concluded that its name was Maranon. Hence it is undeniable, that the preference in antiquity belongs to the name of Maranon; and that this name was not given it by Orsua or his men, in allusion to some feuds and confusions among them, called in Spanish, maranas, or from being bewildered among the great number of islands, forming enmaranado, or an intricate labyrinth of channels, according to the opinion of some historians.

The second name is that of the river of the Amazons, which was given it by Francisco Orellana, from the troops of women who made part of the body of Indians who opposed his passage, and who were not inferior either in courage, or the dexterous use of the bow, to the men; so that, instead of landing where he intended, he was obliged to keep at a distance from the shore, and often in the middle of the channel, to be out of their reach. However, on his return to Spain, and laying before the ministry an account of his proceedings, and of the female warriors that opposed him, he was by patent created governor of these parts, in recompense, as it was expressed, for his having subdued the Amazons; and ever since the river has been called by that name.

Some have indeed doubted whether the Marañon and the Amazons were the same river; and many seem to be strongly persuaded, that they were really different. But this opinion proceeds only from the river's not having been completely reconnoitred till the close of the last century.

This particular of the Amazons is confirmed by all writers, who have given a succinct account of the river, and Orellana's expedition; and though this proof is abundantly sufficient, if not of its reality, at least of its probability, it is additionally confirmed by the tradition still subsisting among the natives, which we may believe on the authority of one of the most eminent geniuses the province of Quito ever produced; I mean Don Pedro Maldonado, who was a native of the town of Riobamba, but lived at Quito, and whose performances are well known in the republic of letters. In 1743, this gentleman and M. de la Condamine agreed to return to Europe in company, by the way of the river Marañon; and among their other inquiries towards a complete knowledge of it, and the countries through which it flows, they did not forget the famous Amazons; and were informed by some old Indians, that it was an undoubted truth that there had formerly been several communities of women, who formed a kind of republic, without admitting any men into the government; and that one of these female states still subsisted, but had withdrawn from the banks of the river to a considerable distance up the country; adding, that they had often seen some of these females warriors in their country. M. de la Condamine, in the narrative of his voyage down this river, printed at Paris in the year 1745, and who had all the rational curiosity of his fellow-traveller Don Pedro Maldonado, relates some of the facts told him by the Indians, concerning the Amazons whom they had seen. But I shall only here insert what historians have said on this head, leaving every one to give what degree of credit he pleases to the adventure of Orellana, and the actual existence of the Amazons.

Some who are firmly persuaded of the truth of the adventure of the Amazons with Orellana, and believe that their valour might be equal to that of the men, in defence of their country and families, will not hear of a female republic separated from the intercourse of men. They say, and not without sufficient reason, that the women who so gallantly opposed Orellana were of the Yurimagua nation, at that time the most powerful tribe inhabiting the banks of the Marañon, and particularly celebrated for their courage. It is therefore, say they, very natural to think that the women should, in some degree, inherit the general valour of their husbands, and join them in opposing an invader, from whom they imagined they had every thing to fear, which might inflame their ardour; as likewise from an emulation of military glory, of which there are undeniable instances in the other parts of the Indies.

The third and last name is that of the Orellana, deservedly given to it in honour of Francisco de Orellana, the first who sailed on it, surveyed a great part of it, and had several encounters with the Indians who lived in its islands or along its banks. Some have been at a great deal of pains to assign certain distances through its long course, and

to appropriate to each of these one of the three names. Thus they call Orellana all that space from the part where this officer sailed down in his armed ship till it joins the Marañon. The name of Amazons begins at the influx of another river, at the mouth of which Orellana met with a stout resistance from the women or Amazons; and this name reaches to the sea: and lastly, the name of Marañon comprehends the river from its source a considerable way beyond the Pongo downwards all along the part of the descent of this river through Peru, alleging that this was the part through which Pedro de Orsua entered the river; supporting their opinion by a derivation, to which we cannot subscribe, namely, that he gave it this name on account of the disturbances which happened among his men. The truth is, that the Marañon, the Amazons, and the Orellana, are one individual river; and that what is meant by each of these names, is the vast common channel into which those many rivers fall, which contribute to its greatness; and that to the original name of Marañon the two others have been added for the causes already mentioned. The Portuguese have been the most strenuous supporters of this opinion, calling it by no other name than that of the Amazons, and transferring that of Marañon to one of the captainships of Brazil, lying betwixt Grand Para and Siara; and whose capital is the city of San Luis del Marañon.

II. — *Account of the first Discoveries, and of the most famous Expeditions on the Marañon, in order to obtain a more adequate Idea of this famous River.*

After this account of the course and names of this river, I shall proceed to the discovery of it, and the most remarkable voyages made thereon. Vincente Yanez Pinzon, one of those who had accompanied the Admiral Don Christopher Columbus in his first voyage, was the person who discovered the mouth through which this river, as I have before taken notice, discharges itself into the ocean. This adventurer, at his own expence, in 1499, fitted out four ships, discoveries being the reigning taste of that time. With this view he steered for the Canary Islands; and after passing by those of Cape de Verd, continued his course directly west, till on the 26th of January, in the year 1500, he had sight of land; and called it Cabo de Consolacion, having just weathered a most violent storm. This promontory is now called Cabo de San Augustin. Here he landed; and, after taking a view of the country, coasted along it northward; sometimes he lost sight of it, when on a sudden he found himself in a fresh-water sea, out of which he supplied himself with what he wanted; and being determined to trace it to its source, he sailed upwards, and came to the mouth of the river Marañon, where the islands made a most charming appearance. Here he staid some time, carrying on a friendly traffic with the Indians, who were courteous and humane to these strangers. He continued advancing up the river, new countries appearing still as he sailed further.

To this maritime discovery succeeded that by land in the year 1540, under the conduct of Gonzalo Pizarro, who was commissioned for this enterprise by his brother the Marquis Don Francisco Pizarro, on the report which Gonzalo Dias de Pineda had made of the country of La Canela, in the year 1536; at the same time making him governor of Quito. Gonzalo Pizarro arrived at the country of Los Canelos; and following the course of a river, either the Napo or Coca, it is not certain which, though more probably the first, met with unsurmountable difficulties and hardships; and seeing himself destitute of provisions of every kind, and that his people, by feeding on the buds and rinds of trees, snakes, and other creatures, wasted away one after another, he determined to build a vessel, in order to seek provisions at the place

place where this river joined another; the Indians having informed him that there he would meet with a great plenty. The command of this vessel he gave to Francisco de Orellana, his lieutenant-general and confident, recommending to him all the diligence and punctuality which their extremity required. After sailing eighty leagues Orellana arrived at the junction of the two rivers, but met with nothing of what he had been sent for; being disappointed in the provisions he sought, the trees not bearing any fruit, or the Indians having already gathered it. His return to Pizarro seemed very difficult, if not impracticable, on account of the rapidity of the current; besides, he could not think of returning, without bringing with him that relief so earnestly expected; so that, after long debating the matter with himself, he determined, without the privity of his companions, to sail with the current to the sea. But this could not long remain a secret, the hoisting the sails sufficiently demonstrating his intentions; and some vehemently opposing such a desertion, as they called it, were near coming to blows. But at length Orellana, by plausible reasons and magnificent promises, pacified them; and the opposition ceasing, he continued his voyage, after setting ashore Hernando Sanchez de Vargas to perish with hunger, as being the ring-leader of the malcontents; and persisting in his invectives against Orellana's project.

Pizarro, surprised at having no account of Orellana, marched by land to the place where he had ordered him, and near it met with Hernando Sanchez de Vargas, who acquainted him with the whole affair of the vessel; at which Pizarro seeing himself without resource, a considerable part of his men dead, the other so exhausted with fatigue and hunger that they dropt down as they marched, and those in the best state reduced to mere skeletons; he determined to return to Quito, which, after fatigues and hardships even greater than the former, he at last reached with a handful of men in the year 1542, having only reconnoitred some rivers, and the adjacent country; a service disproportionate to the loss of so many men, and the miseries suffered in this enterprize.

This was the first expedition of any consequence, to make discovery of the river Maranon: and if the success of Pizarro was not equal to his force and zeal, he was at least the instrument of its being entirely accomplished by another; and to his resolution in pressing forward through difficulties and dangers, and by his expedient of building the armed vessel, must, in some measure, be attributed the happy event of Orellana's voyage, who, with a constancy which showed him worthy of his general's favour, reconnoitred the famous river of the Amazons through its whole extent, the adjacent country, its innumerable islands, and the multitude and difference of nations inhabiting its banks. But this remarkable expedition deserves a more particular detail.

Orellana began to sail down the river in the year 1541; and in his progress through the several nations along its banks, entered into a friendly conference with many, having prevailed upon them to acknowledge the sovereignty of the Kings of Spain formally, and with the consent of the caciques took possession of it. Others, not so docile, endeavoured to oppose, with a large fleet of canoes, his further navigation: and with these he had several sharp encounters. In one Indian nation bravery was so general, that the women fought with no less intrepidity than the men; and by their dexterity showed that they were trained up to the exercise of arms. This occasioned Orellana to call them Amazons; which name also passed to the river. The scene of this action, according to Orellana's own account, and the description of the place, is thought to have been at some distance below the junction of the Negro and Maranon.

Thus

Thus he continued his voyage till the 26th of August, in the same year; when, having passed a prodigious number of islands, he saw himself in the ocean. He now proceeded to the isle of Cubagua, or, according to others, to that of La Trinidad, with a design of going to Spain, to solicit for a patent as governor of these countries. The distance he sailed on this river, according to his own computation, was eighteen hundred leagues.

This discovery was followed by another, but not so complete; it was undertaken in the year 1559 or 1560, under Pedro de Orfua, by commission from the Marquis de Canete, viceroy at Peru, who at the same time conferred on him the title of governor of all his conquests. But the first news of Orfua was, that he and the greatest part of his men were killed in an ambuscade by the Indians; a catastrophe entirely owing to his own ill conduct, which destroyed the great armament made for this enterprise, and created an aversion to designs liable to such dangers.

In the year 1602, the Reverend Raphael Ferrer, a Jesuit, having undertaken the mission of Cofanes, passed down the Marañon, and attentively surveyed the country as far as the conflux of the two rivers where Orellana had left Hernando Sanchez de Vargas; and at his return to Quito gave a very circumstantial account of what he had seen, and the different nations he had discovered.

Another, but fortuitous, view of the river was taken in 1616. Twenty Spanish soldiers, quartered in Santiago de las Montañas, in the province of Yaguarongo, pursued a company of Indians, who, after murdering some of their countrymen in the city, fled up the country, and embarked on the Marañon in their canoes. The soldiers, in falling down the river, came to the nation of the Maynas, who received them in a friendly manner; and after some discourse showed a disposition of submitting to the King of Spain, and desired missionaries might be sent them. The soldiers, on their return to Santiago, having made a report of the good inclination of the Maynas, and their desire of being instructed in the Christian religion, an account was sent to the Prince of Esquiloché, viceroy of Peru: and in 1618, Don Diego Baca de Vega was appointed governor of Maynas and Marañon; and may be said to have been in reality the first, as neither Pizarro, Orellana, nor Orfua, though invested with the title, were ever in possession of it, having made no absolute conquests; a necessary circumstance towards realizing the title.

This expedition was performed in 1635 and 1636, and was succeeded by that of two Franciscans, with others of the same order, who set out from Quito with a determined zeal for propagating Christianity among the nations on the Marañon. But many of them, unable to support themselves under the fatigues and hardships natural in such a country, and discouraged with the little fruit their good desires produced, after wandering among mountains, woods, and deserts, returned to Quito, leaving only two, Dominico de Brieda and Andrew de Toledo, both lay-brothers. These, either from a religious zeal, or naturally more brave and hardy, or of greater curiosity, ventured to penetrate further into those dreary wastes. They were indeed attended by six soldiers, remaining of a whole company who had been sent, under Captain Juan de Palacio, for the safeguard of the missionaries; but so many of them had returned with the religious to Quito, that these six and the captain were all that remained: and that officer, a few days after, lost his life in an action against the Indians.

The six soldiers and two lay-brothers, however, continued with undaunted resolution to travel through countries inhabited by savages, unknown, and full of precipices on all sides; at length they committed themselves to the stream, in a kind of launch; and after many fatigues, hardships, and here and there a rencounter, reached the city

of Para, at that time dependent on, or united with, the captainship of the Marañon, the governor of which resided at San Louis, whither they went, and gave him an account of what they had observed in this navigation.

At that time the crown of Portugal was annexed to Spain; and the governor of the captainship, or Marañon, for the sovereign of both kingdoms, was Jacome Reymundo de Norona, who, zealous for the improvement of this discovery, as of the highest importance to his Prince, fitted out a fleet of canoes, under the command of Captain Texera, to go up the river, and survey the country with greater form and accuracy. This flotilla departed from the neighbourhood of Para, on the 28th of October 1637, with the two religious on board; and after an incessant fatigue in making way against the stream, they arrived at Pahamino on the 24th of June 1638. This place belongs to the jurisdiction of the government of Quixos; whence Texera, with the soldiers and the two religious, went to Quito, where he gave an account of the expedition to the audiencia, which transmitted the particulars to the Count de Chinchon, Viceroy of Peru; and he, agreeably to the zeal he had always manifested for enlarging His Majesty's dominions, held a council about making more particular discoveries along the shores of that river.

Among other things, the Count de Chinchon gave orders, that the Portuguese flotilla should return to Para; and with it sent some intelligent persons, whose zeal might be depended on, with orders to take an accurate survey of the river and its banks; and after discharging this commission, to proceed to Spain, and make a report of their expedition to the council of the Indies, in order to be laid before His Majesty, that measures might in consequence be taken for securing the conquest of these nations. The persons chosen were, the Reverend Fathers Christopher de Accuna and Andres de Artieda, Jesuits, and persons every way equal to the service. They left Quito on the 16th of February 1639; and having embarked with the armadilla, after a voyage of ten months, they arrived at Gran Para on the 12th of December, whence, according to their instructions, they passed over to Spain, and completely acquitted themselves of the trust reposed in them.

At the end of the last century, another expedition was undertaken, for making discoveries on the Marañon; but at that time it was already so well known, that most of the adjacent lands had been improved by the missions which the Jesuits had settled there: and the government of Manas now includes many nations, who, on the fervent preaching of the Jesuits, having embraced Christianity, vowed obedience to the Kings of Spain; and a happy alteration was seen in their morals and customs. The banks of this river, where before only wild Indians were seen living in the manner of beasts, were now turned into plantations and regular towns, the inhabitants of which shewed that they were not destitute of reason and humanity. These improvements were in a great measure owing to Father Samuel Fritz, who, in 1686, preached the Gospel among those people, and in a short time was the instrument of the conversion of many nations: but the continual fatigues and hardships, both by land and water, affected his health to such a degree, that he was obliged to set out for Para in January 1689, and arrived there on the 11th of September of the same year. Here he remained in a disagreeable inactivity, till his health was restored, and some affairs settled which required instructions from the court of Lisbon.

July the 8th 1691, Father Fritz left Para, in order to return to his mission, which then reached from the mouth of the river Napo to some distance beyond the Negro, and included the Omaguas, Yurimaguas, Ayfuares, and many other adjacent nations, the most numerous of the whole river. October the 13th, in the same year, he

returned

returned to the town of Nuestra Senora de las Nieves, the capital of the Yurimagua nation; and having visited the rest under his charge, to the number of forty-one, all large and populous, he went, on other public affairs, to the town of Laguna, the capital of all the missions on the Marañon, where the superior resided; and afterwards repaired to the city of Lima, in order to communicate to the Count de Moncloa, at that time viceroy, a full account of all those countries. This last journey he undertook by the way of the rivers Gualloga, Patanapura, Moyobamba, Chachapoyas, Caxamarca, Truxillo, and Lima.

The affairs which brought this indefatigable missionary to Lima, where he was received with great honour, being finished; Father Fritz, in August 1693, set out, on his return to his missions, by the way of the city of Jaen de Bracamoros, with a view of reconnoitring the course and situation of the rivers which, from those southern parts, fall into the Marañon. By the help of these additional lights, he drew a map of that river, which was engraved at Quito, in the year 1707: and though it had not all the accuracy which could be desired, the father being without instruments for observing the latitudes and longitudes of the chief places, taking the course of the rivers, and determining the distances; yet it was received with very great applause, as being the only one in which were laid down the source and direction of all the rivers which join the Marañon, and the whole course of the latter till its junction with the ocean.

### III. *Account of the Conquest, Missions, and Nations, established on the Marañon.*

The discovery of this famous river, and the survey of the adjacent countries and nations, was followed by the conquest of the nations who inhabited its banks and islands. The miscarriage of the expedition under Gonzalo Pizarro has already been mentioned: Orellana was not more fortunate; when, pursuant to the grant of the government, he returned to settle in it; and Orfua's fate was still more deplorable, perishing himself, with the greatest part of his followers. But we are now to speak of the more successful enterprize of Don Diego Baca de Vega, whom we have already mentioned, but in a cursory manner.

The government of Maynas, and the Marañon, having been conferred on De Vega; confident of the good dispositions of the Maynas Indians, as it had been carefully cultivated, since its first commencement with the Santiago soldiers, he entered the country with a little colony, and founded the city of San Francisco de Borja, in 1634, as the capital of the whole government; a title which it justly deserved, for being the first erected in that vast country; and also on account of the friendship which the Indians had shewn for the Spaniards ever since their first arrival. The new governor being a person of judgment and penetration, was not long in observing that these nations were rather to be governed by moderation and gentleness, with a proper firmness to create respect, than by rigour or austerity: and accordingly informed the audiencia of Quito and the Jesuits of their disposition. Missionaries were accordingly sent them, in the persons of Gaspar de Cuxia and Lucas de Cuebas, who came to Maynas in the year 1637; and their preaching had such remarkable success, that, being not of themselves sufficient for instructing the multitudes of new converts, they sent to Quito for assistance: and thus the number of missions continually increased, and whole nations resorted from their forests in search of the light of the Gospel. By this means the King's dominions were extended, every proselyte with joy acknowledging himself in  
his

his new state a subject of the King of Spain, as he owed to his bounty the inestimable felicity of his conversion.

Thus the missions and the number of towns increased together, and the propagation of the Christian religion in those remote countries, and the aggrandisement of the Spanish monarchy, went hand in hand. But the most distinguished æra of these progressions was the year 1686, by the zeal and activity of Father Fritz, whom we have had occasion before to mention with honour: he went directly among the nation of the Omaguas, who having by the Cocamas Indians been informed of the mildness and wisdom with which the missionaries taught them to live under just and wholesome laws, and a police hitherto unknown among them; together with the many happy effects it had produced in those nations which had conformed to their instructions; animated with these pleasing relations, they sent, in 1681, a deputation to the town of Laguna, belonging to Cocamas, where Father Lorenzo Lucero, superior of the missions, resided, entreating him to send among them persons for their instruction: but the father at that time was not in a capacity of complying with their request, all the missionaries being employed elsewhere. He therefore dismissed them, with commending their good intentions; promising them, that he would send to Quito for a proper person to instruct them in those salutary doctrines embraced by the other nations.

The Omaguas, full of anxiety, did not give Father Lorenzo Lucero time to neglect his promise; for, on hearing that new missionaries, and among them Father Samuel Fritz, were just arrived at Laguna from Quito, the same deputation returned to request the immediate performance of the promise; and having the greatest reason to expect it would be complied with, great part of the people came in canoes to the town of Laguna, as a testimony of respect to Father Fritz, in order to conduct him to their country, where they treated him with such veneration, that in his progress through the towns they would not suffer him to walk, but carried him on their shoulders; an honour which the caciques reserved to themselves alone. The effects of his preaching were answerable to these marks of ardour and esteem, so that in a short time the whole nation was brought to a serious profession of Christianity, deploring their former ignorance and brutality, and forming themselves into a political community, under laws calculated for the happiness of society. And their example so influenced several other adjacent nations, that the Yurimaguas, Afuares, Banomas, and others, unanimously and voluntarily came and addressed themselves to Father Fritz, desiring him to instruct them how to live in the same order and regularity as the Omaguas. Thus whole nations, on embracing Christianity, submitted to the sovereignty of the Spanish monarchs: and all the countries from the Napo to a considerable distance below the Negro, were reduced without the least force throughout the whole extent of the government of Maynas: and such, at the end of the last century, was the number of the nations thus converted, that Father Fritz, though without indulging himself in any respite, was not able to visit every single town and village within the compass of a year, exclusively of the nations under the care of other missionaries, as those of the Maynas, Xebaros, Cocamas, Panos, Chamicuros, Aguanos, Muniches, Otanabes, Roamaynas, Gaes, and many more. The other missions were in the same flourishing condition.

The city of San Francisco de Borja, which we have already mentioned as the capital of Maynas, stands in  $4^{\circ} 28''$  S. lat. and  $1^{\circ} 54''$  E. of the meridian of Quito: but of its largeness and appearance we can only add, that it resembles the cities of the government of Jaen: and its inhabitants, though consisting of Mestizos and Indians, and the place is the residence of the governor of Maynes and Maranon, yet they are not equal in number to those of Jaen de Bracamoros. The principal town of the missions, and

in which the superior is obliged to reside, is Santiago de la Laguna, lying on the eastern bank of the river Guallaga. The places which at present compose those missions in the government of Maynas, and diocese of Quito, are:

*On the River Napo.*

- I. San Bartholome de Necoya.
- II. San Pedra de Aguárico.
- III. San Estanislao de Aguatico.
- IV. San Luis Gonzaga.
- V. Santa Cruz.
- VI. El Nombre de Jesus.
- VII. San Pablo de Guajoya.
- VIII. El Nombre de Maria.
- IX. San Xavier de Icaguates.
- X. San Juan Bautista de los Encabellados.
- XI. La Reyna de los Angeles.
- XII. San Xavier de Urarines.

*On the River Maranon, or Amazons.*

- I. La Ciudad de San Francisco de Borja.
- II. La Certacon, or inland country towards St. Teresa.
- III. San Ignacio de Maynas.
- IV. San Andres del Alto.
- V. Santo Thomas Apostol de Andoas.
- VI. Simigaes.
- VII. San Joseph de Pinches.
- VIII. La Concepcion de Cagua-panes.
- IX. La Presentacion de Chayabitas.
- X. La Incarnacion de Paranapuras.
- XI. La Concepcion de Xebaros.
- XII. San Antonio de la Laguna.
- XIII. San Xavier de Chamicuro.
- XIV. San Antonio Adad de Aguanos.
- XV. Nuestra Senora de las Neves de Yurimaguas.
- XVI. San Antonio de Padua.
- XVII. San Joaquin de la Grande Omagua.
- XVIII. San Pablo Apostol de Napeanos.
- XIX. San Phelipe de Amaonas.
- XX. San Simon de Nahuapo.
- XXI. San Francisco Regis de Yameos.
- XXII. San Ignacio de Bevas 'y Caumares.
- XXIII. Nuestra Senora de las Nieves.
- XXIV. San Francisco Regis del Baradero.

Besides these towns, which have existed for some time, there are several others yet in their infancy; and the Indians, by whom they are inhabited, of different nations from those above-mentioned: likewise many others, both large and populous; some on the banks of the rivers which fall into the Maranon, and others up the country.

Many

Many of the inhabitants of both nations hold a friendly intercourse with the Spanish missionaries; and with the inhabitants of the Christian villages, with whom they traffic, as well as with the Spaniards and Mestizos, settled at Borja and Laguna. All these nations of Indians have some resemblance in their customs; but in their languages very different, every one seeming to have a particular dialect, though there are some of a nearer affinity than others to the general language of Peru. The most difficult to be pronounced is that of the Yameos Indians: while, on the other hand, none is so easy and agreeable to the ear as that of the Omaguas: and the genius and tempers of these two nations were found to be as different as their language. Thus the Omaguas, even before their submission, gave many surprizing proofs of the clearness of their intellects; but were surpassed by the Yurimaguas, both in wit and penetration. The former lived in villages under some kind of government, peacefully obeying their curacas or chiefs. They were less barbarous; their manners less turbulent and corrupt than those of most other Indians. The Yurimaguas formed a kind of republic; and had some laws which were strictly observed, and the breach of them punished in an exemplary manner. But in police the preference doubtless belongs to the Omaguas: for, besides living in society, there was an appearance of decency among them, their nudities being covered, which by others were totally neglected. This disposition in those two nations for making approaches, however small, to civil customs and a rational life, not a little contributed to the speedy progress of their conversion. They were more easily convinced, from the light of nature, of the truth and propriety of the doctrines preached by the missionaries; and were convinced, that happiness, both public and private, was intimately connected with an uniform observance of such precepts, instead of the innumerable evils resulting from the manner of living hitherto practised by them.

Among the variety of singular customs prevailing in these nations, one cannot help being surprised at the odd taste of the Omaguas, a people otherwise so sensible, who, to render their children what they call beautiful, flat the fore and hind parts of the head, which gives them a monstrous appearance; for the forehead grows upwards in proportion as it is flatted; so that the distance from the rising of the nose, to the beginning of the hair, exceeds that from the lower part of the nose to the bottom of the chin: and the same is observable in the back part of the head. The sides also are very narrow, from a natural consequence of the pressure; as thus the parts pressed, instead of spreading, conformably to the common course of nature, grows upwards. This practice is of great antiquity among them; and kept up so strictly, that they make a jest of other nations, calling them calabash heads.

In order to give children this beautiful flatness, the upper part of the head is put, soon after the birth, betwixt two pieces of board; and repeated, from time to time, till they have brought it to the fashionable form.

Another nation of these Indians, affecting a striking appearance, make several holes in both their upper and under lips, both sides of the cartilage of their nose, their chins, and jaws, and in these they stick fine feathers, or little arrows, eight or nine inches long. The reader's own imagination will sufficiently paint the strange appearance they must make with these decorations. Others place a great beauty in long ears; and accordingly extend them by art to such a degree, that in some the inferior lobe touches the shoulder: and they value themselves on the nickname of long ears, which has been given them in ridicule. The method they make use of to extend their ears, is this: they bore a hole in the lobe, and fasten to it a small weight, which they from time to time increase, till the ear is stretched to nearly the length above-

mentioned: and as the lobe increases in length, so likewise does it in magnitude. Others paint some parts of their bodies; some the whole. All have something peculiar in their modes and customs, but generally of such a nature, that Europeans wonder how they could ever enter the thoughts of rational creatures.\*

After describing this great river, and giving an account of the villages and nations near its banks, I shall proceed to some other particularities relating to it; as the extraordinary species of fish found in its waters, and likewise the birds and other animals seen in the adjacent countries through which it flows. Among the various kinds of fish, are two of an amphibious nature; the caymans or alligators, and the tortoise, which swarm on the shores and islands. Its tortoises, for taste, are preferred to those of the sea. Another remarkable fish here is the pexe-buey, or sea-cow, so called from its resembling the land quadruped of that name. This is one of the largest species known in the river, being generally three or four yards in length, and of a proportional thickness: the flesh is very palatable, and, according to some, has pretty much the taste of beef. It feeds on the herbage growing along the shore, but the structure of its body does not admit of its coming out of the water. The female has dug for suckling its young; and whatever some may have said of any farther resemblance to the terrestrial species of that name, it has neither horns nor legs. It has indeed two fins, which serve equally for swimming, and supporting itself on the banks whilst feeding. The general method of the Indians for fishing, is with inebriating herbs, like that I have mentioned on the river Guayaquil. On some occasions they make use of arrows dipped in poison, of such an activity, that the slightest wound immediately kills the fish. This is also their method of hunting; and in both they are so very expert and active, that they are very seldom known to miss their aim. This powerful venom is principally the juice of a bejuco, near six fingers broad, and flat on both sides, of a brownish colour, and growing in very damp marshy places. In order to prepare the poison, they cut it into pieces, which they bruise and boil in water. On taking it off the fire, they add to it a particular ingredient which causes a coagulation. With this they rub the point of their arrows; and when dry, for want of fresh unction, they moisten it with their spittle: the quality of it is so frigorific, that it immediately repels all the blood to the heart, where the vessels burst, being unable to contain such a torrent as suddenly rushes into them. But what is most surprising here, is, that the creature thus killed, and its coagulated blood, are eaten without any inconveniency. The most powerful antidote to this venom is, immediately to eat sugar: but this specific, though often salutary, is not infallible, as several melancholy instances have demonstrated.

The borders and parts adjacent to this famous river, as well as those contiguous to the others which discharge their waters into it, abound with large and lofty trees, the wood of which is of different colours; some white, others of a dark brown; some red, or veined with variety of colours. Some of another species distil balsams of an exquisite fragrantcy, or rare and medicinal gums; others are noted for their delicious and salubrious fruits. Among these the wild cocoa, by the mere goodness of the soil, without any culture, grows in the greatest plenty, and yields fruit of a goodness equal to that in the jurisdiction of Jean and Quixos. Here also are gathered great quantities of sarsaparilla, vanillas, and a bark called Declavo, or cloves: for though it resembles

\* Another remarkable custom is, that of their tying their privities in a bladder before they go into the water. A.

cinnamon in appearance, except its colour, which is something darker, its taste and smell are very different, being nearly the same with that of the East India clove.

As to quadrupeds, birds, reptiles, and insects, they are nearly the same, and in as great numbers as those already mentioned in the description of other hot countries. One reptile of a very extraordinary nature, and known only here and in the provinces of New Spain, I shall, as a conclusion of my account of the Marañon, add a description of.

In the countries watered by that vast river, is bred a serpent of a frightful magnitude, and most deleterious nature. Some, in order to give an idea of its largeness, affirm, that it will swallow any beast whole; and that this has been the miserable end of many a man. But what seems still a greater wonder, is the attractive quality attributed to its breath, which irresistibly draws any creature to it, which happens to be within the sphere of its attraction: but this, I must own, seems to surpass all belief. The Indians call it *jacumama*, i. e. mother of water: for as it delights in lakes and marshy places, it may, in some sense, be considered as amphibious. I have taken a great deal of pains to inquire into this particular; and all I can say is, that the reptile's magnitude is really surprising. Some persons, whose veracity is not to be questioned, and who have seen it in the provinces of New Spain, agreed in their account of the enormous corpulency of this serpent; but, with regard to its attractive quality, could say nothing decisive.\*

Suspending, therefore, for the present, all positive judgment, without giving entire credit to all the qualities vulgarly attributed to this animal, especially the more suspected, as not improbably flowing from astonishment, which frequently adopts absurdities, it being impossible, in so great a perturbation, to consult reason; let me be indulged, with some variation of the accidents, to investigate the cause, in order to come at the knowledge of its properties, which it is difficult to ascertain, unless supported by undoubted experiments. Not that I would offer my opinion as a decisive rule: I desire that the judgment of others may declare for that which appears most conformable to truth. I would also further acquaint the reader, that I only speak from the testimony of those who have seen this famous serpent, having never myself had an opportunity of examining it with my own eyes.

First, it is said, that this serpent, in the length and thickness of its body, very much resembles the trunk of an old tree, whose roots have for some time ceased to convey the usual nourishment; and that on every part of it grows a kind of moss, like that seen on the bark of wild trees. This is accounted for by the dust and mud adhering to it; and alternately moistened and dried by the water and sun. This forms a slight crust over the thick scales; and this crust is increased by the sluggishness and slow motion of the serpent; which, unless when forced by hunger to go in quest of food, continues

\* I have seen three of these serpents killed; out of the body of one of them was taken a hog about ten stone in weight. The largest was about eleven feet long, and twenty-three inches in circumference; the smallest about nine feet long, and nineteen in circumference. They generally lie coiled up, and wait till their prey passes near enough to be seized. As they are not easily distinguished from the large rotten wood (which lies about in plenty in these parts), they have opportunities enough to seize their prey and satiate their hunger. The Indians watch this opportunity, and when they have half gorged their prey, kill them without danger. As I was walking in the woods one day, attended by two Indians and a Negro boy, we were within ten yards of one of these serpents, when the Negro cried out, *Cobra, Senhor! Cobra, Senhor!* on which it made away into a neighbouring thicket, which concealed from our sight the most hideous creature I at that time had ever seen. In its motion, which was slow and peculiar to that serpent, it appeared like a serpentine log, with two bright gems for eyes, placed within three or four inches from the end which was farthest from us, from which rays of azure light seemed to dart. A.

motionless in one place for several days together ; and even then its motion is almost imperceptible, leaving a track like that of a log of timber drawn along the ground.

Its breath is asserted to be of such a nature as to cause a kind of drunkenness or stupidity in man or beast, which has the misfortune of being within the bounds of its activity ; and thus causes the animal involuntarily to move till it unhappily comes within the reach of the serpent, which immediately swallows it. This is the vulgar report : and it is added, that the only method of averting the danger, is, on first feeling the breath, to cut it, that is, to stop it by the interposition of another body, which hastily intervening, cuts the current of the blast and dissipates it. Thus the person, who was moving on to certain destruction, is enabled to take another path, and avoid the fatal catastrophe. These particulars, if thoroughly considered, seem mere fables : as indeed the learned M. de la Condamine intimates ; and the very circumstances with which they are decorated, increase their improbability.

But, in my opinion, with a little alteration in the circumstances, what seems to shock credibility, will appear natural and founded on truth.

That its breath is of such a quality as to produce a kind of inebriation in those whom it reaches, is far from being impossible ; the urine of the fox is well known to have the same effect ; and the breath of the whale is frequently attended with such an insupportable fœtor as to bring on a disorder in the brain. I therefore see no manner of difficulty in admitting, that the breath of this serpent may be of that intoxicating quality attributed to it ; and may be considered as an expedient for catching its prey, as otherwise the creature, from the slow movement of its body, would be utterly incapable of providing itself with food ; whereas, by this deleterious smell, the animal may be thrown into such horror and perplexity, as to be unable to move, but remain fixed like a statue, or faint away, whilst the snake gradually approaches and seizes it. As to what is related of cutting the breath, and that the danger is limited to the direction in which the serpent breathes ; these are tales which, to believe, would imply an utter ignorance of the origin and progress of odours. In short, the vulgar errors, propagated by these rude nations, have gained credit among the Spaniards, merely because none has had the curiosity or resolution to put them to the test of experience.

#### CHAP. VI. — *Of the Genius, Customs, and Manners of the Indians, who are Natives of the Province of Quito.*

THE subject of this chapter, and its circumstances, are of such a nature, that, if what ancient histories deliver concerning them should recur to the memory, they will appear totally different. Indeed the disproportion between what I read, and what I am going to relate, is so remarkable, that, on a retrospect towards past times, I am utterly at a loss to account for the universal change of things ; especially when surrounded by such visible monuments of the industry, polity, and laws of the Indians of Peru, that it would be madness to question the truth of the accounts that have been given of them ; for the ruins of these ancient works are still amazing. On the other hand, I can hardly credit my own eyes, when I behold that nation involved, as it were, in Cimmerian darkness, rude, indocile, and living in a barbarism little better than those who have their dwelling among the wastes, precipices, and forests. But what is still more difficult to conceive is, how these people, whose former wisdom is conspicuous in the equity of their laws, and the establishment of a government so singular as that under which they live, should at present shew no traces of that genius and capacity which

formed so excellent an economy, and so beautiful a system of social duties: though undoubtedly they are the same people, and still retain some of their ancient customs and manners. Leaving, therefore, this intricate subject to be investigated by farther inquiries, I shall proceed to give an account of the present Indians, their genius, customs, and qualities, according to the best information I could obtain from a commerce with those people of all ranks, during ten years. Some particulars in this narrative will demonstrate that they still retain a few sparks of the industry and capacity of the ancient Indians of Peru; whilst others will shew that they are utterly destitute of the knowledge of certain sciences which were common among their ancestors; and that they are equally degenerated from their wisdom in making laws, and their regular observance of them.

It is no easy task to exhibit a true picture of the customs and inclinations of the Indians, and precisely display their genius and real turn of mind; for if considered as part of the human species, the narrow limits of their understanding seem to clash with the dignity of the soul; and such is their stupidity, that, in some particulars, one can scarce forbear entertaining an idea that they are really beasts, and even destitute of that instinct we observe in the brute creation. While in other respects, a more comprehensive judgment, better-digested schemes, and conducted with greater subtilty, are not to be found than among these people. This disparity may mislead the most discerning person: for, should he form his judgment from their first actions, he must necessarily conclude them to be a people of the greatest penetration and vivacity. But when he reflects on their rudeness, the absurdity of their opinions, and their beastly manner of living, his ideas must take a different turn, and represent them in a degree little above brutes.

Such is the disposition of the Indians, that if their indifference to temporal things did not extend itself also to the eternal, they might be said to equal the happiness of the golden age, of which the ancient poets have given such enchanting descriptions. They possess a tranquillity immutable, either by fortunate or unfortunate events. In their mean apparel they are as contented as the monarch clothed with the most splendid inventions of luxury; and so far are they from entertaining a desire for better or more comfortable clothing, that they give themselves no manner of concern about lengthening their own, though half their bodies continue naked. They shew the like disregard for riches; and even that authority or grandeur within their reach is so little the object of their ambition, that, to all appearance, it is the same thing to an Indian, whether he be created an alcalde, or forced to perform the office of a common executioner.

And thus reciprocal esteem among them is neither heightened nor lessened by such circumstances. The same moderation appears in their food, never desiring more than what suffices; and they enjoy their coarse simple diet with the same complacency as others do their well-furnished tables. Nor do I indeed question but if they had their choice of either, they would prefer the latter; but at the same time they shew so little concern for the enjoyments of life, as nearly approaches to a total contempt of them: in short, the most simple, mean, and easiest preparation seems best adapted to their humour.

Nothing can move them, or alter their minds; even interest here loses all its power; it being common for them to decline doing some little act of service, though offered a very considerable reward. Fear cannot stimulate, respect induce, nor punishment compel them. They are indeed of a very singular turn; proof against every attempt to rouse them from their natural indolence, in which they seem to look down with contempt on the wisest of mortals: so firmly bigoted to their own gross ignorance, that the wisest

wisest measures to improve their understanding have been rendered abortive ; so fond of their simplicity and indolence, that all the efforts and attention of the most vigilant have miscarried. But in order to give a clearer idea of their tempers, we shall relate some particular instances of their genius and customs ; as otherwise it will be impossible to draw their true character.

The Indians are in general remarkably slow, but very persevering ; and this has given rise to a proverb, when any thing of little value in itself requires a great deal of time and patience, " That it is only fit to be done by an Indian." In weaving carpets, curtains, quilts, and other stuffs, being unacquainted with any better method, at passing the woof they have the patience every time to count the threads one by one, so that two or three years is requisite to finish a single piece. This slowness undoubtedly is not entirely to be attributed to the genius of the nation ; it flows in some measure from the want of a method better adapted to dispatch : and perhaps, with proper instructions, they would make considerable progresses, as they readily comprehend whatever is shewn them relating to mechanics ; of this the antiquities still remaining in the province of Quito, and over all Peru, are undeniable testimonies. But of these more will be said in the sequel. This indifference and dilatoriness of the Indians is blended with sloth, its natural companion ; and their sloth is of such a nature, that neither their own interest, nor their duty to their masters, can prevail on them to undertake any work. Whatever therefore is of absolute necessity to be done, the care of it is left to the Indian women. These spin, and make the half-shirts and drawers, which constitute the whole apparel of their husbands. They cook the matalotage, or food, universally used among them ; they grind the barley for machca, roast the maize for the camcha, and brew the chicha ; in the mean time, unless the master has been fortunate enough to get the better of the husband's sloth, and taken him to work, he sits squatting on his hams (being the usual posture of all the Indians), and looks on his wife while she is doing the necessary work of the family ; but, unless to drink, he never moves from the fire-side, till obliged to come to table, or wait on his acquaintance. The only domestic service they do, is to plough their chacarita, or little spot of land, in order to its being sown ; but the latter, together with the rest of the culture, makes another part, which is also done by the wife and children. When they are once settled in the above posture, no reward can make them stir ; so that if a traveller has lost his way, and happens to come to any of these cottages, they hide themselves, and charge their wives to say that they are not at home ; when the whole labour consists in accompanying the traveller a quarter of a league, or perhaps less, to put him in his way : and for this small service he would get a rial, or half a rial at least. Should the passenger alight and enter the cottage, the Indian would still be safe ; for, having no light but what comes through a hole in the door, he could not be discovered : and even if he should see the Indian, neither entreaties nor offers would prevail on the slothful wretch to stir a step with him : and it is the same if they are to be employed in any other business.

That the Indians may perform the works appointed by their masters, and for which they are properly paid, it will be of little signification to shew them their task ; the master must have his eye continually upon them : for whenever he turns his back, the Indian immediately leaves off working. The only thing in which they shew a lively sensation and alacrity, is for parties of pleasure, rejoicings, entertainments, and especially dancings. But in all these the liquor must circulate briskly, which seems to be their supreme enjoyment. With this they begin the day, and continue drinking till they are entirely deprived both of sense and motion.

Such is their propensity to intemperance, that they are not restrained by any dignity of character ; the cacique and the alcalde never fail to be of the company at all entertainments, and drink like the rest, till the chicha has quite overcome them. It is worth notice, that the Indian women, whether maids or married, and also the young men before they are of an age to contract matrimony, entirely abstain from this vice ; it being a maxim among them, that drunkenness is only the privilege of masters of families, as being persons who, when they are unable to take care of themselves, have others to take care of them.

Their manner of celebrating any solemnity is too singular to be omitted : the person who gives the entertainment invites all his acquaintance, and provides chicha sufficient for the number of his guests, at the rate of a jug for each ; and this jug holds about two gallons. In the court of the house, if it be a large town, or before the cottage, if in a village, a table is placed, and covered with a tucuyo carpet, only used on such festivities. The eatables consist wholly of camcha, and some wild herbs boiled. When the guests meet, one or two leaves of these herbs, with ten or twelve grains of camcha, finish the repast. Immediately the women present themselves with calabashes or round totumos, called pilches, full of chicha, for their husbands ; and repeat it till their spirits are raised : then one of them plays on a pipe and tabor, whilst others dance, as they call it, though it is no more than moving confusedly from one side to the other, without measure or order. Some of the best voices among the Indian women sing in their own language. Thus their mirth continues while kept up by the liquor, which, as I have said before, is the soul of all their meetings. Another odd circumstance is, that those who do not dance, squat themselves down in their usual posture, till it comes to their turn. The table serves only for state, there being nothing on it to eat, nor do the guests sit down at it. When tired with intemperance, they all lie down together, without minding whether near the wife of another, or their own sister, daughter, or more distant relation ; so shocking are the excesses to which they give themselves up on these solemnities, which are sometimes continued three or four days, till the priests find themselves obliged to go in person, throw away all the chicha, and disperse the Indians, lest they should buy more.

The day after the festival is called Concho, which signifies the day for drinking off the remains of the preceding : with these they begin ; and if not sufficient to complete their revel, every one of the guests runs home to his house, and fetches a jug, or they club for more. This occasions a new concho for the next day ; and thus, if left to themselves, from day to day, till either no more chicha is to be had, or they left without money or credit.

Their burials are likewise solemnized with excessive drinking. The house of mourning is filled with jugs of chicha ; and not for the solace of the mourners and their visitors alone : the latter go out into the streets, and invite all of their nation who happen to pass by, whether married or single of both sexes, to come in and drink to the honour of the deceased ; and to this invitation they will take no denial. The ceremony lasts four or five days, and sometimes more, strong liquor being their supreme wish, and the great object of all their labours.

If the Indians are thus excessively addicted to intemperance, gaming is a fault with which they cannot be charged, though these two vices are generally seen together. They seem to have no manner of inclination for play ; nor have they above one kind, and that of great antiquity, among them ; this they call pafa, i. e. a hundred, as he wins who first gets that number. They play at it with two instruments ; one a spread eagle of wood with ten holes on each side, being tens, and are marked with pegs,  
to

to denote every man's gettings; the other is a bone in the manner of a die, cut with seven faces, one of which has a particular mark, and is called *guayro*. The other five tell according to the number of them, and the last is a blank. The way of playing is only to toss up the bone; and the marks on the upper surface are so many got. But the *guayro* goes for ten; and the like number is lost if the blank side appears. Though this game is peculiar to the Indians, it is very little used except at their revels.

The common food of the Indians, as before observed, is maize made into *camcha* or *mote*, and *machca*; the manner of preparing the latter is, to roast the grain, and then reduce it to a flour; and this, without any other apparatus or ingredient, they eat by spoonfuls: two or three of which, and a draught of *chicha*, or, when that is wanting, of water, completes their repast. When they set out on a journey, their whole *viaticum* is a little bag, which they call *gucrita*, full of this meal, and a spoon. And this suffices for a journey of fifty or a hundred leagues. When hungry, or fatigued, they stop at some place where *chicha* is to be had, or at some water; where, after taking a spoonful of their meal into their mouth, they keep it some time, in order the more easily to swallow it; and with two or three such spoonfuls, well diluted with *chicha*, or, if that is not to be had, with water, they set forward as cheerfully as if risen from a feast.

Their habitations, as may be imagined, are very small; consisting of a little cottage, in the middle of which is their fire-place. Here both they, and the animals they breed, live promiscuously. They have a particular fondness for dogs; and never are without three or four little curs in their hut: a hog or two, a little poultry, and *cuyes*, with some earthen ware, as pots and jugs, and the cotton which their wives spin, constitute the whole inventory of an Indian's effects. Their beds consist of two or three sheep-skins, without pillows or any thing else; and on these they sleep in their usual squatting posture: and as they never undress, appear always in the same garb.

Though the Indian women breed fowl and other domestic animals in their cottages, they never eat them: and even conceive such a fondness for them that they will not even sell them, much less kill them with their own hands; so that if a stranger, who is obliged to pass the night in one of their cottages, offers ever so much money for a fowl, they refuse to part with it, and he finds himself under the necessity of killing the fowl himself. At this his landlady shrieks, dissolves in tears, and wrings her hands, as if it had been an only son; till, seeing the mischief past remedy, she wipes her eyes, and quietly takes what the traveller offers her.

Many of them in their journeys take their whole family with them; the women carrying on their shoulders such children as are unable to walk. The cottages in the mean time are shut up; and there being no furniture to lose, a string, or thong of leather, serves for a lock: their animals, if the journey is to last for several days, they carry to the cottage of some neighbour or acquaintance: if otherwise, their curs are left guardians of the whole; and these discharge their trust with such care, that they will fly at any one, except their masters, who offers to come near the cottage. And here it is worth observing, that dogs bred by Spaniards and *Mestizos* have such a hatred to the Indians, that, if one of them approaches a house where he is not very well known, they fall upon him, and, if not called off, tear him to pieces: on the other hand, the dogs of Indian breed are animated with the same rage against the Spaniards and *Mestizos*; and, like the former, scent them at a distance.

The Indians, except those brought up in cities or towns, speak no language but their own, called *Quichua*, which was established by the *Yncas*, with an order for its being propagated all over the vast empire, that all their subjects might be able to understand each other; and therefore was distinguished by the name of the *Yncas* language.

Some understand the Spanish, and speak it; yet very few have the good-nature to answer in it, though they know, at the same time, that the person with whom they are conversing cannot understand them in Quichua. Nor is it of any consequence to desire and press them to explain themselves in Spanish, for this they absolutely refuse: whereas it is quite otherwise with the Indians born and bred in the towns; for, if spoken to in their own language, they are sure to answer in the Spanish.

Superstition is general among them; and they all, more or less, pretend to fortune-telling. This weakness is also of a long standing among them; and which neither the remonstrances of the priests, nor their own experience, can radically cure. Thus they employ artifices, supposed charms, and strange compositions, in order to obtain some visionary happiness for the success of a favourite scheme, or other weighty concern. In these prestiges their minds are so infatuated, that, to bring them to a sight of the folly and wickedness of such practices, and solidly to embrace the Christian religion, is a work of the greatest difficulty. And even when they have embraced it, are so superficial and fickle, that, if they attend divine service on Sundays and holidays, it is merely from fear of punishment; for otherwise there would be scarce one Indian, especially of the meaner sort, among the whole congregation. Pertinent to this, I shall relate, among many other instances, the following story, told me by a priest. An Indian had, for some time, absented himself from the service of the church; and the priest being informed that it was owing to his drinking early in the morning, on the following Sunday, when he had been particularly ordered to make his appearance, charged him with his fault, and directed that he should receive some lashes, the usual punishment of such delinquents, be their age or sex what it will, and perhaps the best adapted to their stupidity. After undergoing the punishment, he turned about to the priest, and thanked him for having chastised him according to his deserts; to which the priest replied with some words of exhortation to him, and the audience in general, that they would never omit any duty of Christianity. But he had no sooner done, than the poor Indian stepped up to him, and desired that he would order him a like number of lashes for the next Sunday, having made an appointment for a drinking match, so that he should not be present. This may serve as a specimen of the little impression made on them, notwithstanding all the assiduity of the missionaries; and that though continually instructed, from the first dawnings of reason till the day of their death, they are found to continue in a strange ignorance of the most essential points of religion. Their indifference here is so very deplorable, that they may be said to give themselves no more concern about their souls than about their bodies, and though I with pleasure allow, that there are many who, in the culture of their minds, sanctity of manners, and delicacy of conscience, equal the most wise and circumspect; yet the bulk of them, either by that gross ignorance which clouds their intellects, and renders them insensible of their eternal concerns, or their natural depravity, are hardened against religious exhortations. For though they readily grant every thing that is said to them, and never offer to make the least objection; yet they secretly harbour suspicions of some evil design, and leave room for mental reservations, which spoil all. I am little inclined to lay any false charge to this or any nation, and especially with regard to such an important subject: and in confirmation of what I have said, shall relate some further particulars.

Every Sunday in the year, the doctrinal priests instruct their parish in the articles of Christianity with indefatigable zeal: also; when any Indian is sick, they never fail to visit and exhort him to prepare for a comfortable passage into eternity, adding whatever they judge may conduce to the opening the eyes of his understanding; pathetically expatiating on the justice and mercy of God, the nature of death, the certainty of an approaching

approaching judgment, and his present danger. After speaking thus a considerable time, without a word from the patient, or the least sign of emotion in his countenance, the good man proceeds to remind him of his sins, and exhorts him to a sincere repentance, and to implore the mercy of his Creator; as otherwise, his soul will be punished to all eternity. The Indian at length answers, with a serene faintness, "So it will be, father:" meaning, that things will happen as he has predicted; but does not understand in what these threatened sufferings consist. I have often heard priests of those towns, and men of parts and learning, talk with great concern on this subject. Hence it is that there are very few Indians to whom the holy eucharist is administered; nor would those of the house, where a sick person lies, ever give notice of it to the priest, were they not afraid of the punishment which the law in these cases inflicts; and even as it is, they often neglect this duty, and the patient dies without receiving the sacrament.

In their marriages, they run counter to the sentiments of all nations, esteeming what others detest; a virgin being never the object of their choice: for they look on it as a sure sign, that she who has not been known to others, can have nothing pleasing about her.

After a young man has asked the object of his affections of her father, and obtained his consent, they immediately begin to live together as man and wife, and assist the father-in-law in cultivating his chacara. At the end of three or four months, and often of a year, he leaves his bride, without ceremony, and perhaps for the wild reason above mentioned: and even expostulates with the father-in-law, that he should endeavour to deceive him, by imposing upon him his daughter, whom nobody else had thought worthy of making his bedfellow. But if nothing of this happens, after passing three or four months in this commerce, which they call *Amanarse*, i. e. to habituate one's self, they then marry: and this custom is still very common, having hitherto proved too strong for the joint endeavours of the whole body of the clergy to extirpate. Accordingly, the first question at the ceremony of marriage is, whether they are *Amannados*, in order to absolve them of that sin before they receive the nuptial benediction. They look upon no marriage to be legal which is not solemn, and according to them the whole consists in the nuptial benediction, which must be given them at the time they join their hands, as otherwise, on any caprice, they separate: and it is to no purpose to go about to persuade them that they were married; nor will any punishment have the least effect. For as it does not imply any infamy, the intention is lost. It is the same thing with them to be exposed to the public derision and insults, as to be ordered to shew their skill in dancing on a festival; the thing which, of all others, they most delight in. They are indeed sensible of corporal punishments during the time they are inflicting, but immediately afterwards are as placid and easy as if they had not been touched. This occasions many things to be connived at in them, and other means of prevention used.

It is not uncommon among them to change their wives, without any other preliminary or agreement, than having been familiar with the wife of another. The former wife, together with the injured husband, concert a revenge; and if reproached for such a proceeding, they cheerfully answer, that they had served them only as they deserved; and it avails little to separate them, as they soon find means to return to the same manner of living. Incests are very common among them, both as the consequence of their monstrous drunkenness, already mentioned, and from their making no distinction between honour and infamy, whereby their brutal appetites are under no restraint.

If the foregoing tempers or customs appear strange, their behaviour at confession is not less so : for, besides having but a slender acquaintance with the Spanish language, they have no form to direct them in it. On their coming to the confessor, which is always at his summons, he is obliged to instruct them in what they are going about, and with them repeat the *Confiteor* from one end to the other. For if he stops, the Indian also remains silent. Having gone through this, it is not enough for the priest to ask him, whether he has committed this or that fault ; but if it be one of the common sort, he must affirm that he has committed it, otherwise the Indian would deny every thing. The priest further is obliged to tell him, that he well knows he has committed the sin, and he has proofs of it. Then the Indian, being thus pressed, answers, with great astonishment, that it is so : and, imagining the priest really endued with some supernatural knowledge, adds circumstances which had not been asked him. It is not only difficult to bring them to declare their faults, but even to keep them from denying them, though publicly committed, and equally so to prevail on them to determine the number ; this being only to be obtained by finesses ; and then little stress is to be laid on what they say. The natural dread, which more or less rises in all men at the approach of death, is what the Indians are less susceptible of than any other people. Their contempt of those evils which make the strongest impressions on the minds of men, is such, that they view the approach of death without perturbation : and the pain of the distemper affects them more than the danger of it. This I have often heard from several of the priests : and their words are confirmed by daily instances. For when the priests perform the last offices to dying persons, their answers are delivered with that composure and serenity, as leave no doubt but the inward state of their mind corresponds with these external appearances, being the principle and cause of them. The like is even seen in those whom their crimes have brought to die by the hands of justice ; and among many other examples, I happened myself to be an eye-witness of one. Whilst I was at Quito, two malefactors were to be executed ; one a Mestizo or Mulatto, and the other an Indian : both having been brought into the prison-chapel, I went to see them the night before the execution. The former was attended by several priests, who, in Spanish, exhorted him to die like a Christian, and shew a becoming fervour in his love to God, faith, and contrition, and a detestation for the crimes he had committed. On which, his aspect and whole deportment shewed a sense of his condition. The Indian had also ecclesiastics about him, performing, in his own language, the like kind offices. But to all appearance he was less concerned even than those about him, and seemed rather to be tilling a chacura, or tending a herd, than on the eve of eternity. His appetite was so far from leaving him, as was the case of his companion, that he was more eager, and after dispatching his own, would have cleared his fellow sufferer's plate ; so that they were obliged to use some force to prevent his eating to excess on such an exigency. He talked to the spectators with that ease and tranquillity, as if only going to take a short journey. He answered to the exhortations without the least confusion : when he was ordered to kneel, he did so. The prayers and acts of devotion he also repeated word for word ; but all the time rolling his eyes about, like a sportive child, whose weak age is diverted by trifling objects. Thus he behaved till brought to the gibbet, where his companion had been carried before him : nor did he shew the least alteration even in the awful moment. And this, to a civilized European so strange, is no more than what is common among the Indians of these parts.

This indifference with regard to death, or intrepidity, if we may term it so, shews itself upon many other occasions, particularly in the alacrity and resolution with which they face themselves before a bull, with no other view than for the bull to run full at him,

him, and toss him so high in the air, that any other than an Indian would be killed by the fall. He however rises without receiving any hurt, and is highly delighted with the victory, as he calls it, ~~over the bull~~; though the victory seems to lie on the bull's side. When they fight in a body against others, they fall on, without any regard to superiority of numbers, or who drops, or is wounded of their party. An action which in a civilized nation is counted the height of courage, is here merely the effect of barbarism and want of thought. They are very dextrous in haltering a bull at full speed; and, as they fear no danger, attack him with what we should call great temerity. With the same dexterity they hunt bears: and a single Indian, with only a horse and his noose, never fails of getting the better of all the cunning and rage of this furious animal. This noose is made of cow hide, so thin as not to be seized by the beast's paws, and yet so strong as not to be broken by the struggles of the creature. On perceiving the bear, they immediately make towards him, whilst he sets up in order to seize the horse. But the Indian being come within a proper distance, throws the noose about the creature's neck: then, with surprising celerity having taken two or three turns with the other end about the saddle, claps spurs to his horse: in the mean time the bear, unable to keep pace with the horse, and struggling to clear himself of the noose, is choaked. This is considered as an achievement of admirable dexterity and bravery; and may be frequently seen in the province of Alausi, near the eastern Cordillera, where these animals abound.

\* A great part of the rusticity in the minds of the Indians must be imputed to the want of culture; for they, who in some parts have enjoyed that advantage, are found to be no less rational than other men; and if they do not attain to all the politeness of civilized nations, they at least think properly. The Indians of the mission of Paraguay are, among others, remarkable instances of this; where, by the zeal, address, and exemplary piety of the Jesuits, a regular well-governed republic of rational men has been established: and the people, from an ambulatory and savage manner of living, have been reduced to order, reason, and religion. One of the most effectual means for this was, the setting up schools for instructing the young Indians in Spanish, in which they also instruct their converts; and those who are observed to be of a suitable genius, are taught Latin. In all the villages of the missions are schools for learning, not only to read and write, but also mechanic trades; and the artificers here are not inferior to those of Europe. These Indians, in their customs and intellects, are a different sort of people from those before mentioned. They have a knowledge of things; a clear discernment of the turpitude of vice, and the amiableness of virtue; and act up to these sentiments: not that they have any natural advantage over the other: for I have observed throughout this whole kingdom, that the Indians of its several provinces through which I travelled are alike. And those of Quito are not more deficient in their understandings, than those of Valles or Lima: nor are these more acute or sagacious than the natives of Chili and Arauco.

Without going out of the province of Quito, we have a general instance in confirmation of what I have advanced. For all the Indians brought up to the Spanish language are far more acute and sensible than those who have spent their lives in little villages; and their behaviour more conformable to the dictates of a rational creature. They are men of abilities and skill, and have divested themselves of many of their errors. Whence they are called Ladinos, i. e. knowing men; and if they retain any of the culpable practices of the former, it is from the infection of intercourse, or from a mistaken notion that they should keep them up as transmitted to them from their ancestors. Among these are chiefly distinguished the barber-surgeons, who bleed with such dexte-

city, that in the opinion of Monf. de Jussieu and Monf. Seniergues, surgeons to the French academists, they equal the most famous in Europe; and their intercourse with persons of a liberal education enlightens their understanding, so that they distinguish themselves to great advantage among their countrymen. It seems to me unquestionable, that if in villages care was taken to instruct the Indians in Spanish, conformable to the laws of the Indies, besides other acquirements, this people would have the benefit of conversing more frequently with the Spaniards, which would greatly improve their reason, and give them a knowledge of many things for which they have no word in their language. Accordingly it is observed that the Cholos (a name given to the Indian boys) becoming acquainted with the Spanish language, improve so much in knowledge, that they look on their countrymen as savages, and take upon themselves the appellation of Ladinos.

I am very far from imagining that the Spanish language itself has the virtue of improving the intellects of the Indians; but only, that rational conversation with the Spaniards would lead them to a knowledge of many things: and consequently they might be brought to a greater purity of faith and practice. Whereas the conversation among themselves must be very low and confined: and what they have with the Spanish traders who understand their language, turns wholly on traffick. But if they understood the Spanish, they would daily receive new lights by conversing with travellers whom they attend, as well as from the inhabitants of the cities, their masters, the priests, the corregidors, and others; and thus become more industrious and tractable, and acquainted with the nature of things of which before they had not so much as an idea.

Are not the differences and advantages evident among ourselves, betwixt a young man whose stock of learning is his natural language, and him who is acquainted with others? What a superiority of knowledge, discernment, and facility in the latter! Hence we may form some idea of the abject state of the human mind among rude country people, who cannot exchange a word with a stranger, and never stir out of their village: whereas, when any one happens to go to a neighbouring town, he returns home with enlarged knowledge, and entertains all the village with his narratives: but if he had not understood the language spoken in it, he would have been little the better, nor able to relate the strange things he saw and heard. This is the very case of the Indians; and I am of opinion, that to teach them the Spanish tongue would be the best means of improving their reason, and consequently of making them better members of society: and that my superiors thought so, appears from the ordinances relating to America.

The Indians in general are robust, and of a good constitution. And though the venereal distemper is so common in this country, it is seldom known among them: the principal cause of which unquestionably lies in the quality of the juices of their body not being susceptible of the venom of this distemper. Many however attribute it to a quality in the chicha, their common drink. The disease which makes the greatest havock among them is the small-pox: which is so fatal that few escape it. Accordingly it is looked upon in this country as a pestilence. This distemper is not continual as in other nations, seven or eight years, or more, passing without its being heard of; but when it prevails, towns and villages are soon thinned of their inhabitants. This desolation is owing partly to the malignity of the disease, and partly to the want of physicians and nurses. Accordingly, on being seized with this distemper, they immediately send for the priest to confess; and die for want of remedy and relief. The like happens in all other distempers; and were they frequent, would be equally fatal,

these poor creatures dying for want of proper treatment and assistance; as is evident from the Créoles, who are also attacked by the distempers of the country. Some of the latter indeed die as well as of the former; but many more recover, having attendance and a proper diet: whereas the Indians are in want of every thing. What their houses and apparel are, has already been seen. Their bed is the same in health and sickness; and all the change in their food is in the manner of taking it, not in the species itself: for, however ill they may be, all they have is a small draught of machca dissolved in chicha; so that, if any one does get the better of a distemper, it is more owing to the happiness of his constitution, than any relief he receives.

They are also subject to the bicho, or mal del valle; but this is soon cured. Sometimes, though seldom, they are also seized with tabardillos, or spotted fevers, for which they have an expeditious but singular cure. They lay the patient near the fire, on the two sheep-skins which compose his bed; and close by him place a jug of chicha. The heat of the fever, and that of the fire increasing the other, cause in him such a thirst, that he is incessantly drinking; whereby the eruptions are augmented, and the next morning he is either in a fair way of recovery; or so bad as to be carried off in a day or two.

They who either escape, or recover from, these distempers, reach to an advanced age; and both sexes afford many instances of remarkable longevity. I myself have known several, who, at the age of a hundred, were still robust and active; which unquestionably must, in some measure, be attributed to the constant sameness and simplicity of their food. But I must observe, that, besides the different kinds already mentioned, they also eat a great deal of salt with agi, gathering the pods of it; and having put some salt in the mouth, they bite the agi, and afterwards eat some machca or camcha: and thus they continue taking one after another, till they are satisfied. They are so fond of salt in this manner of eating it, that they prefer a pod or two of agi with some salt to any other food.

After this account of the genius, customs, and qualities of the Indians, it will not be improper to speak a word or two of their diversions and occupations, premising, that this account does not extend to such Indians as live in cities and towns, or that occupy any public office or trade, they being looked upon as useful to the public, and live independently. Others in the kingdom of Quito are employed in the manufactories, the plantations, or in breeding of cattle. In order to this, the villages are annually to furnish those places with a number of Indians, to whom their master pays wages as settled by the equity of the King: and at the end of the year they return to their villages, and are replaced by others. This repartition is called Mita. And though these alterations should by order take place in the manufactories, yet it is not so: for being occupations of which none are capable but such as have been properly trained up, the Indian families, which are admitted, settle there, and the sons are instructed in weaving, from one generation to another. The earnings of these are larger than those of the other Indians, as their trade requires greater skill and capacity. Besides the yearly wages paid them by those whom they serve, they have also a quantity of land, and cattle given them to improve. They live in cottages built near the mansion-house, so that every one of these forms a kind of village; some of which consist of above an hundred and fifty families.

**CHAP. VII.** — *An historical Account of the most remarkable Mountains and Paramos, or Deserts, in the Cordilleras of the Andes; the Rivers which have their Sources in these Mountains, and the Methods of passing them.*

I NOW come to the most remarkable paramos, or deserts, of the kingdom of Quito, and the rivers flowing through that country, which, among many other natural curiosities, is peculiarly remarkable for the disposition of the ground, and its prodigious masses of snow, that exceed all comparison.

It has been before observed, that all the dependencies of the jurisdictions of this province are situated betwixt the two Cordilleras of the Andes; and that the air is more or less cold according to the height of the mountains, and the ground more or less arid. These arid tracts are called Paramos, or deserts; for though all the Cordilleras are dry or arid, some of them are much more so than others; for the continual snows and frost render them absolutely uninhabitable, even by the beasts; nor is there a single plant to be found upon them.

Some of these mountains, seemingly as it were founded on others, rise to a most astonishing height, and are covered with snow even to their summits. The latter we shall more particularly treat of, as they are the most remarkable and curious objects.

The paramo of Afuay, formed by the junction of the two Cordilleras, is not of this class; for, though remarkable for its excessive coldness and aridity, its height does not exceed that of the Cordilleras in general, and is much lower than that of Pichincha and Corazon. Its height is the degree of the climate, where a continual congelation or freezing commences; and as the mountains exceed this height, so are they perpetually covered with ice and snow; that from a determined point above Carabucu for instance, or the surface of the sea, the congelation is found at the same height in all the mountains. From barometrical experiments made at Pucaguayco, on the mountain Cotopaxi, the height of the mercury was 16 inches  $5\frac{1}{8}$  lines; whence we determined the height of that place to be 1023 toises above the plain of Carabucu, and that of the latter above the superficies of the sea about 1268. Thus the height of Pucaguayco, above the surface of the sea, is 2291 toises. The signal which we placed on this mountain was thirty or forty toises above the ice, or point of continual congelation; and the perpendicular height from the commencement of this point to the summit of the mountain, we found, from some geometrical observations made for that purpose, to be about 880 toises. Thus the summit of Cotopaxi is elevated 3126 toises above the surface of the sea, or something above three geographical miles; and 639 toises higher than the top of Pichincha. These are mountains I intend to speak of; and the height of them all, considering the greatness of it, may be said to be nearly equal.

In these Cordilleras, the most southern mountain is that of Mecas, more properly called Sanguay, though in this country better known by the former, lying in the jurisdiction of the same name. It is of a prodigious height, and the far greatest part of the whole surface covered with snow. From its summit issues a continual fire, attended with explosions, which are plainly heard at Pintac, a village belonging to the jurisdiction of Quito, and near forty leagues distant from the mountain; and, when the wind is fair, the noise is heard even at Quito itself. The country adjacent to this volcano is totally barren, being covered with cinders ejected by it. In this Pacamo, the river Sangay has its source. This river cannot be said to be small, but after its junction with another, called the Upano, forms the Payra, a large river which discharges itself into the Maranon.

In the same eastern Cordillera, about six leagues west of the town of Riobamba, is a very high mountain, with two crests, and both of them covered with snow; that on the north is called Collanes, and that on the south Altar; but the space covered with snow is much less than that of Sangay and others of this class, its height being proportionally less.

North of the same town, and about seven leagues distant, is the mountain of Tun-guragua, of a conical figure, and equally steep on all sides. The ground, at its basis, is something lower than that of the Cordillera, especially on the north side, where it seems to rise from the plain on which the villages are situated. On this side, in a small plain betwixt its skirts and the Cordillera, has been built the village of Bannos, so called from its hot medicinal baths, to which there is a great resort from all parts of this jurisdiction. South of Cuenca, and not far from another village, called Bannos also, belonging to this jurisdiction, are other hot waters on the summit of an eminence, gushing out through several apertures of four or five inches diameter, and of a heat which hardens eggs sooner than water boiling over the fire. These several streams unite and form a rivulet, the stones and banks of which are tinged with yellow, and the water is of a brackish taste. The upper part of this small eminence is full of crevices, through which issues a continual smoke: a sufficient indication of its containing great quantities of sulphurous and nitrous substances.

North of Riobamba, inclining some degrees to the west, is the mountain of Chimborazo, by the side of which lies the road from Quito to Guayaquil. At first great numbers of the Spaniards perished in passing the vast and dangerous deserts on its declivity; but being at present better acquainted with them, and inured to the climate, such misfortunes are seldom heard of; especially as very few take this road, unless there is the greatest appearance of two or three days of calm and serene weather.

North of this mountain stands that of Carguayraso, which has been already taken notice of.

North of Latacunga, and about five leagues distant from it, is Cotopaxi, which, towards the north-west and south, extends itself beyond all the others; and which, as I have before observed, became a volcano at the time of the Spaniards first arrival in this country. In 1743, a new eruption happened, having been some days preceded by a continual rumbling in its bowels. An aperture was made in its summit, and three about the same height near the middle of its declivity, at that time buried under prodigious masses of snow. The ignited substances ejected on that occasion, mixed with a prodigious quantity of ice and snow, melting amidst the flames, were carried down with such astonishing rapidity, that in an instant the plain, from Callo to Latacunga, was overflowed; and, besides its ravages in bearing down houses of the Indians and other poor inhabitants, great numbers of people lost their lives. The river of Latacunga was the channel of this terrible flood, till, being too small for receiving such a prodigious current, it overflowed the adjacent country like a vast lake near the town, and carried away all the buildings within its reach. The inhabitants retired to a spot of higher ground behind their town, of which those parts which stood within the limits of the current were totally destroyed. The dread of still greater devastations did not subside in three days, during which the volcano ejected cinders, while torrents of melted ice and snow poured down its sides. The fire lasted several days, and was accompanied with terrible roarings of the wind rushing through the volcano, and greatly exceeded the great rumblings before heard in its bowels. At last all was quiet, neither fire nor smoke were seen, nor was there any noise to be heard till the following year, 1744; when, in the month of May, the flames increased, and forced their passage

passage through several other parts on the sides of the mountain; so that in clear nights, the flames being reflected by the transparent ice, formed a very grand and beautiful illumination. November the 30th, it ejected such prodigious quantities of fire and ignited substances, that an inundation equal to the former soon ensued; so that the inhabitants of Latacunga gave themselves over for lost. And we ought to acknowledge the Divine protection, that it did not rage when we visited it, having occasion twice to continue some time on its declivity, as we have already shewn in the third chapter of the fifth book.

Five leagues to the west of this mountain stands that of Illinisa, whose summit is also bifid, and constantly covered with snow. From it several rivulets derive their source; of which those flowing from the northern declivity continue that direction: as those from the southern side also run southward. The latter pay their tribute to the northern ocean, through the large river of the Amazons; while the former discharge themselves into the South Sea, by the river of Emeralds.

North of Cotopaxi is another snowy mountain called Chinculagua, something less than the former, though even that is not to be compared to the others.

The mountain of Cayamburo, which is one of the first magnitude, lies north, some degrees easterly, from Quito, at the distance of about eleven leagues from that city. There is neither appearance nor tradition of its having ever been a volcano. Several rivers issue from it, of which those from the west and north run either into the river of Emeralds or that of Mira, but all fall into the South Sea; while these from the east discharge themselves into the river of the Amazons.

Besides the torrents which precipitate themselves from the snowy mountains, others have their source in the lower parts of the Cordilleras, and at their conflux form very large and noble rivers, which either pay the tribute to the north or south seas, as we shall hereafter observe.

All the springs issuing from the mountains in the neighbourhood of Cuenca, on the west and south side as far as Talqui, with those of the eastern Cordillera, and northward as far as the Parama de Burgay, unite at about half a league eastward of a chapel called Jadani, under the care of the curate of Paute, where forming a river, and passing near the village from which it has its name, discharges itself into the river of the Amazons. It is so deep at Paute as not to be fordable, though very wide there.

From the mountains of Asuay, Bueran, and the adjacent hills on the south, is formed a very considerable river, over which are several bridges. It is called Cannar, from that town being the only one in its course; which it continues by Yocon to the bay of Guayaquil.

The north parts of the Paramo of Asuay also gave rise to many streams, which, uniting with others coming from Mount Senegaulap, and the western side of the eastern Cordillera, form the river Alausi, which discharges itself into the same bay.

On the highest part of the Paramo de Tioloma, and near the signal one erected on this mountain for forming our series of triangles, are four lakes, the three nearest it being less than the other, which is about half a league in length, and called Coley; and the others, which are not greatly inferior, Pichabinnac, Pubillu, and Maftallan. From these is formed the river Cebadas, which runs near the village of that name, and is joined by another arising from the springs on the Paramo of Lalangufo, and the streams from the Colta lake, after which, inclining a little from the north towards the east, passes by Pungala; and about a league from the village of Puni, is joined by the river Bamba, which has its source in the Paramo of Sisapongo. Near the town of Cobigies is another, which flows from the mountain of Chimborazo, and

which, after directing its course northward, till it is in an east and west direction with the mountain of Tunguragua, it winds to the east, and adds its water to those of the river of the Amazons. At the town of Penipe, it is so deep and rapid as only to be crossed over a bridge made of bujucos. Also before it reaches the town of Los Bannos, it is increased by the rivers Latacunga and Bato, together with all the streams from both the Cordilleras, those from the southern summit of Elenisa, and the southern side of Ruminavi and Cotopaxi.

The streams flowing from the north summit of Elenisa, I have already mentioned to run northward; and with these all from the same Cordillera unite, together with those issuing from the north and west sides of the mountain Ruminavi, those of Pasuchua; and from this junction rises the river Amaguanna. The two last mountains stand north and south from each other, in an intermediate space of the Cordilleras. From the north side of Cotopaxi the Paramo of Chinchulagua, which is also covered with snow, and the Cordillera de Guamani, other streams have their rise, and from their conflux is formed the river Ichubamba, which, running northward, joins the Amaguanna, a little to the north of Cono-Coto. Afterwards it receives the rivulets issuing from the eastern Cordillera, and changes its name to that of Guayllabamba. The waters which have their source in the western part of Cayamburo, and the southern part of Moxanda, form another river called Pisque, which first runs towards the west, and joining the Guayllabamba, takes the name of Alchipichi, which, a little to the north of St. Antonio, in the jurisdiction of Quito, is so broad and rapid, that there is no passing it but in a tarabita, which we shall presently describe. From hence it continues its course northwards, and at last falls into the river of Emeralds.

The mountain of Majanda stands in the interval between the Cordilleras; and though it has only one side as it were, it is divided into two summits, one eastward and the other westward; and from both these runs a small Cordillera, which, afterwards joining, inclose this valley.

From the side of the mountain issue two large torrents, which meet in the lake of St. Pablo: from whence flows a river, which, being joined by others from the springs of the western Cordillera, form one stream, and after being increased by another brook from the heights of Oezillo, give rise to the river which washes the town of St. Miguel de Ibarra; after which it takes the name of Mira, and discharges itself into the South Sea, a little to the north of the river of Emeralds.

When the rivers are too deep to be forded, bridges are made at the most frequented places. Of these there are two kinds besides those of stone, which are very few: the former of wood, which are the most common; and the latter of bujucos. With regard to the first, they choose a place where the river is very narrow, and has on each side high rocks. They consist of only four long beams laid close together over the precipice, and form a path about a yard and a half in breadth, being just sufficient for a man to pass over on horseback; and custom has rendered these bridges so natural to them, that they pass them without any apprehension. The second, or those formed of bujucos, are only used where the breadth of the river will not admit of any beams to be laid across. In the construction of these, several bujucos are twisted together, so as to form a kind of large cable of the length required. Six of these are carried from one side of the river to the other, two of which are considerably higher than the other four. On the latter are laid sticks in a transverse direction, and, over these, branches of trees, as a flooring; the former are fastened to the four which form the bridge, and by that means serve as rails for the security of the passenger, who would otherwise be in no small danger from the continual oscillation. The bujuco bridges in this country are

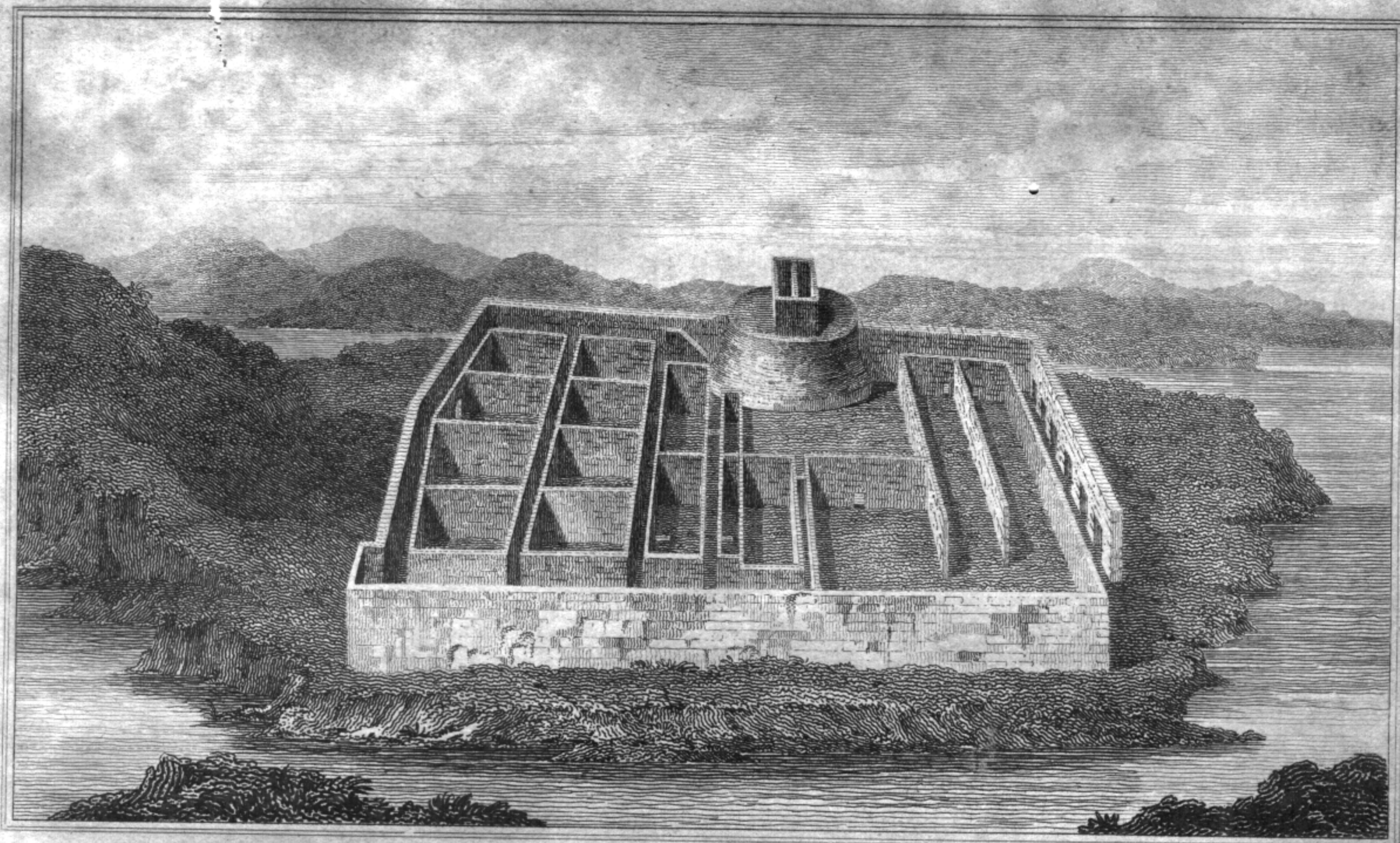
only for men, the mules swim over the rivers; in order to which, when their loading is taken off, they are drove into the water near half a league above the bridge, that they may reach the opposite shore near it, the rapidity of the stream carrying them so great a distance. In the mean time, the Indians carry over the loading on their shoulders. On some rivers of Peru there are bejuco bridges so large, that droves of loaded mules pass over them; particularly the river Apurimac, which is the thoroughfare of all the commerce carried on between Lima, Cusco, La Plata, and other parts to the southward.

Some rivers, instead of a bejuco bridge, are passed by means of a tarabita; as is the case with regard to that of Alchipichi. This machine serves not only to carry over persons and loads, but also the beasts themselves; the rapidity of the stream, and the monstrous stones continually rolling along it, rendering it impracticable for them to swim over.

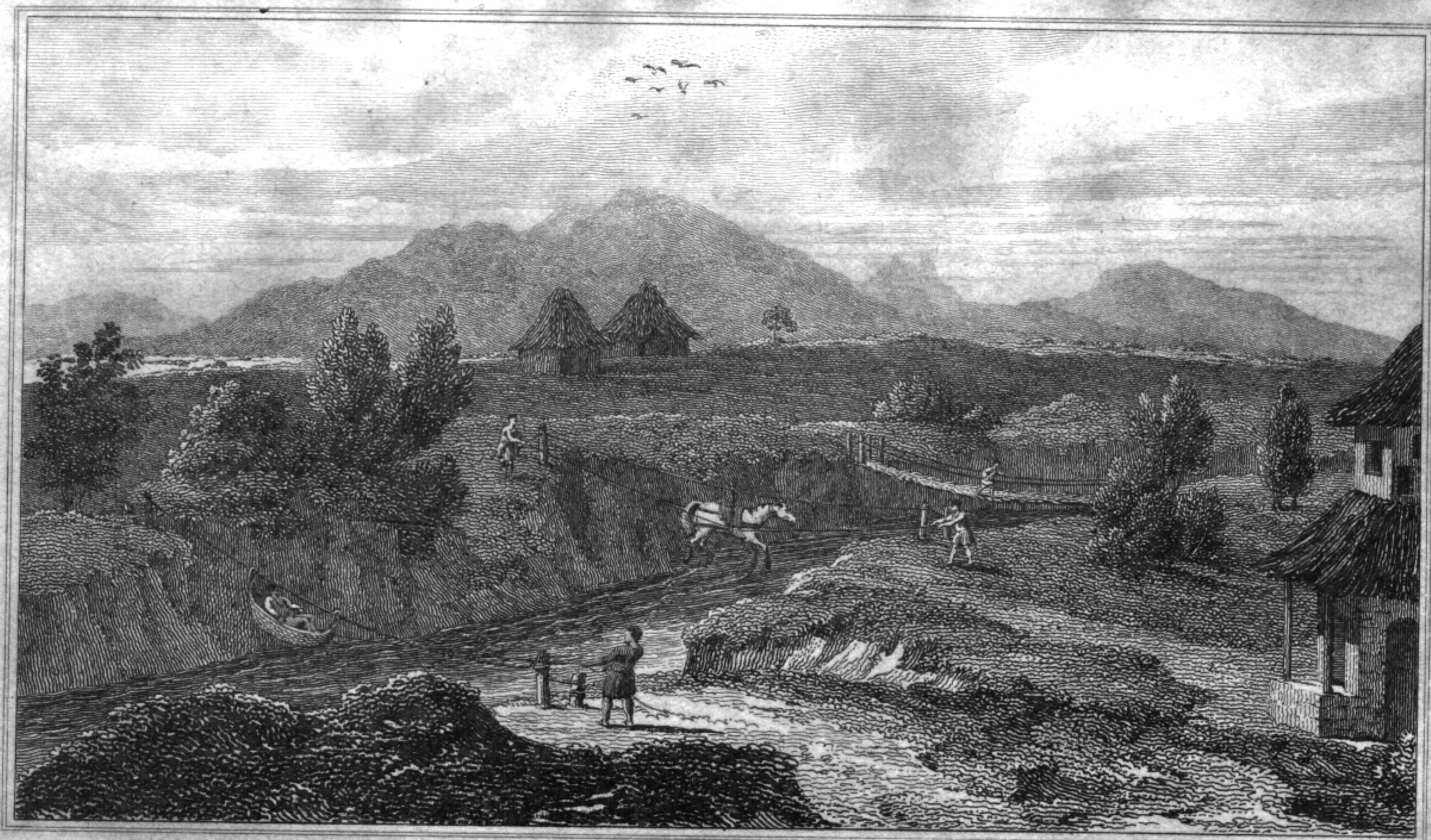
The tarabita is only a single rope made of bejuco, or throngs of an ox's hide, and consisting of several strands, and about six or eight inches in thickness. This rope is extended from one side of the river to the other, fastened on each bank to strong posts. On one side is a kind of wheel, or winch, to straighten or slacken the tarabita to the degree required. From the tarabita hangs a kind of leathern hammock capable of holding a man; and is suspended by a clue at each end. A rope is also fastened to either clue, and extended to each side of the river, for drawing the hammock to the side intended. A push at its first setting off sends it quickly to the other side.

For carrying over the mules, two tarabitas are necessary, one for each side of the river, and the ropes are much thicker and flacker. On this rope is only one clue, which is of wood, and by which the beast is suspended, being secured with girths round the belly, neck, and legs. When this is performed, the creature is shoved off, and immediately landed on the opposite side. Such as are accustomed to be carried over in this manner, never make the least motion, and even come of themselves to have the girths fastened round them; but it is with great difficulty they are first brought to suffer the girths to be put round their bodies, and when they find themselves suspended, kick and fling, during their short passage, in a most terrible manner. The river of Alchipichi may well excite terror in a young traveller, being between thirty and forty fathoms from shore to shore; and its perpendicular height, above the surface of the water, twenty-five fathoms.

The roads of this country are suitable to the bridges; for though there are large plains between Quito and the river Bamba, and the greatest part of the road between the river Bamba and Alausi, and even to the north of that city, lies along the mountains, yet these are interrupted by fruitful breaches, the acclivities and declivities of which are not only of a great length and very troublesome, but also dangerous. In some places there is a necessity for travelling along tracts on the declivities of mountains, which are sometimes so narrow as hardly to allow room for the feet of the beast; part of its body, and that of the rider, being perpendicular over a torrent fifty or sixty fathoms beneath the road. So that certainly nothing but absolute necessity, there being no other road, and long custom, can get the better of that horror which must affect the person at the sight of such imminent danger; and there are too many instances of travellers losing their effects, if not lives, their whole dependance being on the sure foot of the mule. This danger is indeed, in some measure, compensated by the security of the roads; so that we see here what none of the civilized nations can boast of, namely, single persons travelling, unarmed, with a great charge of gold and silver, but equally safe as if strongly guarded. If the traveller happens to be fatigued  
in



*Palace of the Inca's at Canar.*



*Uncommon Bridges in South America.*

in a desert, he lays him down, and sleeps without the least apprehension of danger. Or if he takes up his lodgings in a tambo, or inn, he sleeps with the same security, though the doors are always open: nor is he ever molested on the road. This is a convenience so favourable to commerce and intercourse, that it were greatly to be wished the same security could be established in the other parts of the world.

CHAP. VIII. — *Continuation of the Account of the Paramos, or Deserts; with an Account of the Beasts, Birds, and other Particulars of this Province.*

TO conclude my observations on the Paramos, which it was necessary to interrupt, in order to give a short account of the rivers, bridges, and roads, I shall observe, that these parts not being of a height sufficient to expose them to an eternal frost, they are covered with a kind of rush resembling the *genista Hispanica*, but much more soft and flexible. It is about half or three quarters of a yard in height, and, when of its full magnitude, its colour is like that of dried *genista Hispanica*. But where the snow remains some time on the ground without melting, none of these plants growing in habitable climates are found. There are indeed others, though few, and even these never exceed a certain height. Above this tract, nothing is seen but stones and sand all the way up to the beginning of the ice.

In these parts, where the above rush is the principal product, the soil is as little adapted to cultivation; but produces a tree, which the inhabitants call *Quinual*, the nature of which very well suits the roughness of the climate. It is of middling height, tufted, and the timber strong; its leaf of a long, oval form, thick, and of a deep green colour. Though it bears the same name as the grain called *Quinoa*, of which we have spoken elsewhere, and which grows in great plenty, the latter is not, however, the production of this tree; nor has the plant, on which it grows, any thing in common with it.

The climate proper for *quinua* is also adapted to the produce of a little plant, which the Indians call *Palo de Luz*. It is commonly about the height of two feet, consisting of stalks which grow out of the ground, and proceed from the same root. These stems are straight, and smooth up to the top, from which grow little branches with very small leaves. All of these nearly rise to the same height, except the outer ones, which are of a less size: it is cut close to the ground, where it is about three lines in diameter; and being kindled whilst green, gives a light equal to that of a torch, and, with care taken to snuff it, lasts till the whole plant is burnt.

In the same place grows also the *achupalla*, consisting of several stalks, something resembling those of the *sabilla*; and as the new shoot up, the most outward grow old and dry, and form a kind of trunk, with a great number of horizontal leaves, hollow in the middle; and this, when not very large, is eatable like that of the *palmitos*.

Towards the extremity of the part where the rush grows, and the cold begins to increase, is found the vegetable called *Puchugchu*, with round leaves growing together so as to represent a very smooth bulb, having nothing in them but the roots: and as these increase, the outward case of leaves dilates into the form of a round loaf, usually a foot or two in height, and the same in diameter: on this account, they are also called *Loaves* or *Onions*. When in their vigour, they are of so hardy a nature, that a stamp with a man's foot, or the tread of a mule, makes no impression on them; but when once fully ripe, they are easily broken. In the middle state, betwixt the full strength of their resistance and the decay of their roots by age, they have an elastic quality, yielding

yielding with a tremulous motion to the pressure of the foot, and on its being taken off, recover their form.

In the places where the puchugchu thrives best, also grows the canchalagua, the virtues of which are well known in Europe. The form of this is like a very thin rush or straw; bears no leaves, but has a few small seeds at its extremity. It is medicinal, and particularly useful as a febrifuge; its taste is bitter, which it easily communicates either by infusion or decoction. In this country, it is chiefly used as a sweetener of the blood, though thought to be of a hot quality. It grows in great quantities, and is found both among the puchugchu, and in other parts on the heath, where the cold is less intense.

Another plant, not less valuable for its virtues, and growing chiefly in those dreadful deserts where, either from the severity of the cold or perpetual snows, or from the badness of the soil, nothing else is produced, is found the so celebrated calaguala; its height is about six or eight inches, and naturally spreads itself in thin stems along the sand, or climbs up the rocks. These branches, in their form, resemble the fibril of the roots of the other plants, being not above two or three lines in their greatest thickness, round, and full of little knots, where they bend round like the tendrils of a vine. They have a thin pellicle of a loose texture, which of itself separates when the plant dries. The most singular virtue of this plant is for all kinds of imposthumes, internal or external, which it dissolves and heals in a very little time. The manner of administering it is by decoction, of which a very little serves; or, after bruising it, to infuse it in wine, and take it fasting for three or four days, and no longer, its good effects in that time being usually conspicuous; and being extremely hot, it might prove pernicious, if taken in greater quantity than absolutely necessary; for which reason only, three or four pieces, each about an inch and a half in length, are used for the infusion, and with such sort of wine as will best correct its bitterness. Though this excellent herb grows in most of those frozen deserts, yet the best is that in the southern province of Peru. The leaves are very small, and the few it bears grow contiguous to the stem.

The paramos, or barren heaths, likewise yield the contrayerva, which makes a part of the materia medica in Europe, and is considered as an excellent alexipharmic. This is also a creeping plant, with a leaf, of about three or four inches in length, and a little more than one in breadth, thick, the back part of it exceeding soft to the touch, and of a deep green. The other side is also smooth, but of a light green. On its stem grows a large blossom, consisting of many flowers inclining to a violet colour: but neither these nor the other flowers, which grow in great abundance in these countries, according to its several climates, are much esteemed; so that, when wanted, the readiest way is to send and have them cut from the plant.

Though the severity of the air on the deserts is such, that all animals cannot live there, yet they afford many beasts of venery, which feed on the straw or rush peculiar to those parts; and some of these creatures are met with on the highest mountains, where the cold is intolerable to the human species. Among the rushes are bred great numbers of rabbits, and some foxes, both which, in their appearance and qualities, resemble those of Carthagenia and other parts of the Indies.

The only birds known in those rigorous places are partridges, condors, and zumbadores or hummers. The partridges differ something from those of Europe; they nearly resemble the quail, and are very scarce.

The condor is the largest bird in these parts of the world; its colour and appearance resemble those of the galinazos, and sometimes it soars from the highest mountains so

as to be almost out of sight : and by its being seldom seen in low places, a subtle air seems best to agree with it ; though some, which have been tamed when young, live in the villages and plantations. Like the galinazos, they are extremely carnivorous, and are known frequently to seize and fly away with lambs that feed on the heaths : of this I happened to see an instance, in my way down from the signal of Lalangufo toward the plantation of Pul, lying near the bottom of those mountains. Observing, on a hill adjoining to that where I was, a flock of sheep in great confusion, I saw one of these condors flying upwards from it with a lamb betwixt its claws ; and, when at some height, dropt it ; then, following it, took it up, and let it fall a second time, when it winged its way out of sight, for fear of the Indians, who, at the cries of the boys and barkings of the dogs, were running towards the place.

In some deserts this bird is common ; and, as it preys on the flocks, the Indians are not wanting in their endeavours to catch them. One of the ways is, to kill a cow, or other beast, when of no further use, and to rub the flesh with the juice of some potent herbs, which they afterwards carry away : for otherwise the bird, sensible of them by natural instinct, would not touch the flesh. Further, to take off the smell, they bury the flesh till it becomes putrid, and then expose it ; when the condors, allured by the smell of the carcase, hasten and greedily feed on it, till the herbs operate so as to render them quite senseless and incapable of motion : the Indians seize the opportunity, and destroy them. They likewise catch them with springs laid near some flesh : but such is the force of this bird, that, with a stroke of its wing, it sometimes knocks down the man who approaches it. Their wing also serves them as a shield, by which they ward off blows, without receiving any hurt.

The zumbador, or hummer, is a night bird, peculiar to the mountainous deserts ; and they are seldom seen, though frequently heard, both by the singing, and a strange humming made in the air by the rapidity of their flight, and which may be heard at the distance of fifty toises ; and when near, is louder than that of a rocket. Their singing may indeed be called a kind of cry, resembling that of night-birds. In moonlight nights, when they more frequently make their appearance, we have often watched to see their size and the celerity of their motion ; and though they passed very near us, we never were able to form any idea of their magnitude ; all that we could see, was a white line which they formed in flight through the air ; and this was plainly perceivable, when at no great distance. We promised the Indians a reward if they would procure us one ; but all they could do was to procure a young one, scarce fledged, though it was then of the size of a partridge, and all over speckled with dark and light brown ; the bill was proportionate and strait ; the aperture of the nostrils much larger than usual, the tail small, and the wings of a proper size for the body. According to our Indians, it is with the nostrils that it makes such a loud humming. This may, in some measure, contribute to it ; but the effect seems much too great for such an instrument ; especially as at the time of the humming it also uses its voice.

Among the valleys and plains formed by these mountains, are many marshy places, occasioned by the great variety of small streams of water ; and in these breed great numbers of a bird called Canclon, a name perfectly expressive of its manner of singing. It very much resembles the bandurria, though the species be different : it exceeds the bigness of a large goose, has a long thick neck, and a head something resembling that bird. The bill is straight and thick, and its legs and feet thick and strong. The outward feathers of the wing are of a dark brown, those of the inside of a pure white ; but the other parts of the body spotted. At the meeting of the wings they have two spurs, projecting to the length of an inch and a half, as their defence. The male and female are inseparable, whether flying, or on the ground, where they mostly keep themselves,

selfes; never taking flight except across a valley, or when pursued. The flesh eats very well, after being kept three or four days to lessen its natural toughness. These birds are also found in places less cold than the mountainous deserts; but here, indeed, they are something different, having on the forehead a kind of cartilaginous horn; but both these and the other species have a crest on their head.

The gardens of all kinds in the villages are much frequented by a bird very remarkable both for its smallness and the vivid colours of its feathers. It is generally called *Picaflores*, or flower-pecker, from its hovering over them, and sucking their juices without lacerating or so much as disordering them. Its proper name is *Quinde*, though it is also known by those of *Rabilargo* and *Sifongero*, and in England by that of humming-bird. Its whole body, with its plumage, does not exceed the bigness of a middle-sized nutmeg; the tail is usually near three times the length of the whole body, yet has but few feathers; its neck is short; the head proportioned, with a very brisk eye; the bill long and slender, white at the beginning and black at the end: the wings are also long and narrow. Most of the body is green, spotted with yellow and blue. Some are higher coloured than others; and all are variegated with streaks, as it were, of gold. Of this bird, also, there are various species, distinguished by their size and colours. This is thought to be the smallest of all known birds; the female lays but two eggs at a time, and those no bigger than peas. They build in trees, and the coarsest materials of their nests are the finest straws they can pick up.

In the parts of this country, which are neither taken up by mountains nor forests, only tame animals are met with; whence it is probable, that formerly its native species were but very few; most of these having been introduced by the Spaniards, except the llama, to which the Indians added the name of *runa*, to denote an Indian sheep, that beast being now understood by the *runa-llama*; though, properly, llama is a general name importing beast, in opposition to the human species. This animal, in several particulars, resembles the camel: as in the shape of its neck, head, and some other parts; but has no bunch, and is much smaller; cloven-footed, and different in colour: for though most of them are brown, some are white, others black, and others of different colours: its pace resembles that of a camel, and its height equal to that of an ass betwixt an year and two old. The Indians use them as beasts of carriage; and they answer very well for any load under a hundred weight. They chiefly abound in the jurisdiction of *Riobamba*, there being scarce an Indian who has not one for carrying on his little traffick from one village to another. Anciently the Indians used to eat the flesh of them, and still continue to make that use of those which are past labour. They say there is no difference betwixt it and mutton, except that the former is something sweeter; it is a very docile creature, and easily kept. Its whole defence is, to eject from its nostrils some viscosities, which is said to give the itch to any on which they fall; so that the Indians, who firmly believe this, are very cautious of provoking the llama.

In the southern provinces of Peru, namely, in *Cusco*, *La Paz*, *La Plata*, and the adjacent parts, are two other animals, not very different from the llama: these are the *vicuna* and the *guanaco*; the only difference between them being, that the *vicuna* is something smaller, its wool shorter and finer, and brown all over the body, except the belly, which is whitish. The *guanaco*, on the contrary, is much larger, its wool long and harsh; but the shape of both is pretty near alike. These last are of great service in the mines, carrying metals in such rugged roads as would be impracticable to any other beast.

In the houses is bred a creature called *chucha*; but in the other southern provinces it is known by the Indian name of *muca-muca*; it resembles a rat, but considerably bigger, with a long snout, not unlike that of a hog; the feet and tail are exactly the same

as those of a rat, but the hair is longer and black. In the lower part of its belly, from the beginning of the stomach to the natural orifice of the sex, runs a sort of bag, formed of two membranous skins, which growing from the lower ribs, and joining in the middle, follow the conformation of the belly, which they inclose: in the middle of it is an aperture extending about two-thirds of its length, and which the creature opens and shuts at pleasure by means of muscles, doubtless formed by nature for this purpose. After bringing forth her young, she deposits them in this bag, and carries them as a second pregnancy till they are fit for weaning; she then relaxes the muscles, and the young come out as a second brood. Monsieur de Jussieu and M. Seniergues, when at Quito, made an experiment, at which Don George Juan and I were both present. The dam had been dead three days, and began to smell very disagreeably; the orifice of the bag remained still shut, but the young ones we found full of life within, each with a teat in his mouth, from which, at the time we took them off, some small drops of milk came out. The male I never saw: but was told that it was of the same bigness and shape as the female, except the bag; the testicles of this creature are of an enormous disproportion, being of the size of a hen's egg. It is a very fierce enemy to all tame birds, and does a great deal of damage in the maize fields. The Indians eat the flesh, and say it is not at all disagreeable: but few Europeans have much veneration for their taste or cookery.

CHAP. IX. — *Phænomena observed in the mountainous Deserts and other Parts of this Province. Hunting Matches. Dexterity of the American Horses.*

TO the before-mentioned particulars of the mountainous deserts, I shall subjoin the phenomena seen there, as subjects equally meriting the curiosity of a rational reader. At first we were greatly surprised with two, on account of their novelty; but frequent observations rendered them familiar. One we saw in Pambamarca on our first ascent thither; it was a triple circular iris. At break of day the whole mountain was encompassed with very thick clouds, which the rising of the sun dispersed so far as to leave only some vapours of a tenuity not cognizable by the sight: on the opposite side to that where the sun rose, and about ten toises distant from the place where we were standing, we saw, as in a looking-glass, the image of each of us, the head being as it were the centre of three concentric iris's; the last or most external colours of one touched the first of the following; and at some distance from them all, was a fourth arch entirely white. These were perpendicular to the horizon; and as the person moved, the phenomenon moved also in the same disposition and order. But what was most remarkable, though we were six or seven together, every one saw the phenomenon with regard himself, and not that relating to others. The diameter of the arches gradually altered with the ascent of the sun above the horizon; and the phenomenon itself, after continuing a long time, insensibly vanished. In the beginning, the diameter of the inward iris, taken from its last colour, was about five degrees and a half, and that of the white arch, which circumscribed the others, not less than sixty-seven degrees. At the beginning of the phenomenon, the arches seemed of an oval or elliptical figure, like the disk of the sun, and afterwards became perfectly circular. Each of the least was of a red colour, bordered with an orange, and the last followed by a bright yellow, which degenerated into a straw colour; and this turned to a green. But in all, the external colour remained red.

On the mountains we also had frequently the pleasure of seeing arches formed by the light of the moon; particularly one on the 4th of April 1738, about eight at night, on

the plain of Turubamba. But the most singular was one seen by Don George Juan, on the mountain of Quinoa-loma, on the 22d of May 1739, at eight at night. These arches were entirely white, without the mixture of any other colour, and formed along the slope or side of a mountain. That which Don George Juan saw consisted of three arches, touching in the same point: the diameter of the inner arch was sixty degrees; and the breadth of the white mark, or delineation, took up a space of five degrees; the two others were, in every respect, of the same dimensions.

The atmosphere, and the exhalations from the soil, seem more adapted than in any other place for kindling the vapours; meteors being here more frequent, and often very large, last longer, and are nearer the earth, than the like phenomena seen in other parts. One of these inflammations, of a very extraordinary largeness, was seen at Quito whilst we were there. I cannot exactly determine the date of its appearance, the paper on which I had wrote an account of it being lost, when I was taken by the English: but the particulars, which I remember, are as follow:

About nine at night, a globe of fire appeared to rise from the side of Mount Pichincha; and so large, that it spread a light all over the part of the city facing that mountain. The house where I lodged looking that way, I was surprized with an extraordinary light darting through the crevices of the window shutters. On this appearance, and the bustle of the people in the streets, I hastened to the window, and came time enough to see it in the middle of its career, which continued from west to south, till I lost sight of it, being intercepted by the mountain of Panecillo, which lies in that quarter. It was round, and its apparent diameter about a foot. I said that it seemed to rise from the sides of Pichincha: for to judge from its course, it was behind that mountain where this congeries of inflammable matter was kindled. In the first half of its visible course, it emitted a prodigious effulgency, then gradually began to grow dim, so that at its occultation behind the Panecillo, its light was very faint.

I shall conclude this chapter with an account of the manner of hunting, which is the only diversion in the country, and in which they passionately delight. Indeed the most remarkable circumstance in it is the ardour and intrepidity of the hunters; and which a stranger, at first, will naturally consider as mere rashness, till he sees persons of the greatest prudence, after having made one single trial, join in these parties, trusting entirely to their horses; so that it is rather to be termed a dextrous and manly exercise, and proves the superiority both of the riders and horses to the most celebrated in Europe; and that the boasted fleetness of the latter is dullness, when compared to the celerity with which those of America run over mountains and precipices.

The hunting is performed by a great number of people, who are divided into two classes, one on horseback, the other on foot, who are generally Indians. The business of the latter is, to rouse the beast, and that of the others, to hunt it. They all, at break of day, repair to the place appointed, which is generally on the summit of the paramos. Every one brings his greyhound; and the horsemen place themselves on the highest peaks, whilst those on foot range about the breaches, making a hideous noise in order to start the deer. Thus the company extend themselves three or four leagues, or more, according to their numbers. On the starting of any game, the horse which first perceives it sets off; and the rider, being unable to guide or stop him, pursues the chace sometimes down such a steep slope, that a man on foot, with the greatest care, could hardly keep his legs; from thence up a dangerous ascent, or alongside of a mountain, that a person, not used to this exercise, would think it much safer to throw himself out of the saddle, than commit his life to the precipitate ardour of the horse.

Thus

Thus they continue till they come up with the game, or till, after following it four or five leagues, the horses tire. Those in the other stations, on perceiving one horse on its speed, immediately start; and thus the whole company are soon in motion; some hastening to meet the beast, and others following the chase; so that in such multitudes it is very seldom his good fortune to escape. The horses here do not wait for the riders to animate them; they set forward immediately on seeing another on full speed on a different mountain, or at the shouts of the huntsmen, or cries of the dogs, though at ever so great a distance, or even by observing in a dog the least motion that he scents the game. One such circumstance is sufficient for these horses: and it then becomes prudence in the rider to give him his way, and at the same time to let him feel the spur to carry him over the precipices. But, at the same time, let him be very attentive to keep the saddle; for on such declivities the least neglect throws the rider over the horse's head: the consequence of which, either by the fall, or by being trampled upon, is generally fatal. These horses are called paramos, being backed and exercised in running over such dangerous places. Their usual pace is trotting. There is indeed another species called aguilillas, equally remarkable for their swiftness and security. Though the aguilillas only pace, they equal the longest trot of the others: and some of them are so fleet, that no other horse can match them even at full gallop. I once was master of one of this kind; and which, though none of the racers, often carried me in twenty-nine minutes from Callao to Lima, which is two measured leagues and a half, though notwithstanding great part of the road was very bad and stony; and in twenty-eight or twenty-nine minutes brought me back again, without ever taking off the bridle. This I can assert from my own experience. These horses are very seldom known to gallop or trot; and it is a very difficult matter even to bring them to it by teaching, though the trotting horses soon come into pacing. The pace of the aguilillas is by lifting up the fore and hind leg of the same side at once; but instead of putting the hinder foot in the place where the fore foot was, as is the usual way of other pacing horses, they advance it farther, equal to that on the contrary side, or something beyond it; that thus, in each motion, they advance twice the space of the common horses. Besides, they are very quick in their motions, and remarkably easy to the rider.

Other horses, not of this breed, are taught the same manner of pacing, and perform it with ease and expedition, as those in whom it is a natural quality: neither species are handsome, but very gentle and docile; full of spirit and intrepidity.

#### CHAP. X. — *A short Account of the many Silver and Gold Mines in the Province of Quito; and the Method of extracting the Metal.*

THE chief riches of the kingdom of Peru, and the greatest part of the Spanish possessions on the continent, being the mines, which spread their ramifications through the whole extent of these countries; that province is justly accounted the most valuable where the mines are most numerous, or at least, where the greatest quantity of metal is procured. The fertility of the soil, the exuberant harvests with which the labourer's toil is rewarded, would lose much of their advantage, had not the precious contents in the bowels of the earth exercised the ingenuity of the miner. The fertile pastures which so richly cover the country, are disregarded, if the stones upon trial are not found to answer the avidity of the artists: and the plentiful productions of the earth, which are in reality the most excellent gifts of nature, for the support and comfort of human life, are undervalued and slighted, unless the mountains contain rich veins of a fine silver.

Thus, contrary to the nature of things, the name of rich is bestowed on that province where most mines are worked, though so entirely destitute of the other more necessary products, that the great number of people employed in the mines are under a necessity of being supplied from other parts: and those provinces, whose pastures are covered with flocks and herds, whose fields yield plentiful harvests, and their trees bend beneath rich fruits, under the fertilizing influence of a benign climate, but destitute of mines, or forgotten through neglect, are looked upon as poor; and indeed, except in the plentiful surface of the earth, make no wealthy appearance. This is the case here; and the reason of it is evident: those countries are as staples for silver and gold, which are taken from the bowels of the earth only to be sent into distant nations with all possible diligence, their native country being that where they make the least stay: and the same practice is observed to be carried on, no less eagerly, throughout every town and village in the Indies: for, as they cannot well do without European goods, the gold and silver of America must be paid in exchange for them.

In a province where no mines are worked, the fertility of the soil, and goodness of its products are neglected; for the scarcity of money reduces them to such a low price, that the husbandman, for want of an incentive to any assiduous industry, instead of sowing and planting all he could, consults only what he may vend according to the common consumption, besides what is necessary for the support of his family. And as the whole return of what he receives for his fruits and grain, even when he is so fortunate as to export any, goes away again in exchange for European goods, the scarcity of money still continues, and he is so poor as sometimes possibly to want even necessities. It is otherwise in provinces abounding with mines; for these being the objects of the attention and labours of its inhabitants, there is a continual circulation of money. What is carried out, is replaced by that drawn from the mines. Nor are they even in want of European goods, or the produce of the more fertile countries, plenty of traders from all parts resorting to places near the mines, as the original seats of gold and silver. But that province where the richness of the mines and of the soil concenter, is doubtless preferable to those where nature has given only one of these advantages. Quito may justly be classed among the former, being that province which of all Peru is the most fertile in grain and fruits; the most populous, and especially in Spaniards; abounds most in cattle; has the most manufactures, and excels in them; and in mines, if not the richest, yet equal to any of the others, on which nature has poured out these her choicest favours. But it seems as if nature, unwilling to distinguish this by an absolute happiness, has denied it a suitable concourse of people, that it might not at once have a full enjoyment of all the benefits lavished on it, there being no reason which can disculpate the inhabitants of Quito in the neglect of the mines. For though the number of them discovered be very great, and afford a very probable conjecture that the Cordilleras must contain many more; yet very few are worked, particularly within these jurisdictions. Thus the riches of the country lie buried, and without them the fertility of the soil cannot supply their want; so as to spread through the province an opulence like that observable in the other provinces of Peru, where, by the circulation of silver, there is an universal appearance of affluence, gaiety, and splendour.

Of the great number of mines within the province of Quito, some were formerly worked which at present are abandoned. The country then was sensible of its advantage; and the remembrance of the general opulence of those times, resulting from the riches taken out of the mines, still subsists. Not only the capital, but the towns and villages were then very populous: and many of its inhabitants were famous all over Peru for their prodigious wealth. The rich mines within the jurisdiction of Mecas,

were irrecoverably lost by a revolt of the Indians; and in process of time the very remembrance of their situation was obliterated. The mines of Zaruma have been abandoned, the art of working the ore being lost, for want of a sufficient number of people to apply themselves to it: and the same decline is now seen all over the province. The fertility, as natural to the climate, still continues in all its plenty: but scarce the shadow of its former lustre and magnificence remains; and that enormous wealth, in which it gloried is now no more. For if its products and manufactures bring in considerable quantities of silver from Lima and Valles, all is expended on European goods; so that, as I observed, little of that gold and silver, so common in the more southern provinces, is to be seen here.

The only part of the province of Quito, which, under this unhappy change, preserves its ancient opulence, is the department within the government of Popayan, which throughout abounds in gold mines, and great numbers of them are still worked. To gratify the curious, I shall give an account of the principal, and the manner of working the gold ore; as it is different from that used in the mines of Caxa; after which, I shall mention the other mines known within that province.

Every part of the jurisdiction of Popayan abounds in mines of gold; and though in some departments more are worked than in others, yet they all yield gold: and new mines are daily discovered and worked; which, under all the inclemencies of the air, in some parts fills its towns with inhabitants. Among the departments belonging to the province of Quito, the richest in gold are those of Cali, Buga, Almaguar, and Barba-coas, some of its mines being always more or less worked; and with this singular advantage in its gold, of never being mixed with any heterogeneous body; consequently no mercury is requisite in extracting it.

The gold mines in these parts are not Caxa mines, as those of silver and many of gold are; that is, they are not contained and confined as it were betwixt two natural walls: but the gold is found dispersed and mixed with the earth and gravel; as sands are found mingled with earths of different species. Thus the whole difficulty consists in separating the grains of gold from the earth; and this is very easily done, though otherwise it would be impracticable, by running conduits of water. This method is also equally necessary in the Caxa mines, where the silver and gold are intimately united with other bodies, as, after having gone through the operation of the quicksilver, which their quality renders indispensable, it is washed in order to separate the remaining filth. After the last operation the amalgama is pure, consisting entirely of quicksilver, and gold or silver, according to the species which has been worked.

The manner, throughout the whole jurisdiction of Popayan, for extracting the gold, is, to dig the ore out of the earth, and lay it in a large cocha, or reservoir made for that purpose; and when this is filled, water is conveyed into it through a conduit: they then vigorously stir the whole, which soon turns to a mud, and the lightest parts are conveyed away through another conduit, which serves as a drain; and this work is continued till only the most ponderous parts, as little stones, sand, and the gold, remain at the bottom. The next part of the progress is, to go into the cocha with wooden buckets made for this purpose, in which they take up the sediment; then moving them circularly and uniformly, at the same time changing the waters, the less ponderous parts are separated; and at last the gold remains at the bottom of the bucket, clear from all mixture. It is generally found in grains as small as those of sand; and for that reason called oro en polvo; though sometimes pepitas, or seeds, are found among it, of different sizes, but generally they run small. The water issuing from this cocha is stopped in another contrived a little beneath it, and there undergoes a like operation; in order

to secure any small particles of gold, which, from their extreme smallness might be carried off by the current of the water being mixed with earth and other substances: and lastly, this water is passed into a third cocha: but the savings here are generally inconsiderable.

This is the method practised in all the mines belonging to the jurisdiction of Popayan. The labourers are Negro slaves, purchased by the owners; and whilst some are employed in washing, others bring earth; so that the washers are kept in continual employment. The fineness of this gold is generally of twenty-two carats; sometimes more, even to twenty-three; sometimes indeed it is under, though very seldom below twenty-one.

In the district of Choco are many mines of Lavadero, or wash gold, like those we have just described. There are also some, where mercury must be used, the gold being enveloped in other metallic bodies, stones, and bitumens. Several of the mines have been abandoned on account of the platina; a substance of such resistance, that, when struck on an anvil of steel, it is not easy to be separated: nor is it calcinable; so that the metal enclosed within this obdurate body, could not be extracted without infinite labour and charge. In some of these mines the gold is found mixed with the metal called tumbaga, or copper, and equal to that of the East; but its most remarkable quality is, that it produces no verdigrease, nor is corroded by any acids, as common copper is well known to be.

The gold taken out of all these lavaderos, or mines, in the province of Quito, is partly circulated in it: but after no long stay, like the other gold of these countries, goes away to Lima; yet these circulations, however temporary, preserve it from that decay which other parts have felt. A large quantity of this gold is carried to Santa Fé or Carthagena, so that Quito sees very little of it.

In the district of the town of Zaruma, within the jurisdiction of Loxa, are several gold mines worked; and though of no great fineness, being only betwixt sixteen and eighteen carats, they are so rich, that, when refined to twenty carats, they prove more advantageous to the miners than those where the gold is naturally of that fineness, but less abundant. Antiently it was usual to work veins, but the inhabitants are now so indolent, that most of them are neglected. These ores are worked with quicksilver, and all the mines here are Caxa mines. Of the same kind also are other gold mines within the jurisdiction of the government of Jaen Bracamoros, which, about eighty or a hundred years ago, yielded great quantities of metal. But the Indians of those parts, encouraged by the success of their brethren of Macas, having revolted, the situation of them was entirely forgotten; and no care has since been taken to search after them. The gold extracted from these mines, though not so fine as that of Popayan, far exceeded the Zaruma gold. The Indians still extract some small quantities, when absolute necessity drives them to this resource for paying the tribute. In order to this, they go to some brook or river, and there wait till it overflows its bank, then wash the sands till they have procured a sufficient quantity to answer their present necessity; then they immediately leave off, not thinking it worth while to fatigue themselves any longer about it. Several mines discovered all over this province, have undergone the same fate. One of these was in the jurisdiction of the town of Latacunga, near the village of Angamarca; the owner of which was an inhabitant of the village called Sanabria. The quantity of metal he procured from it was so great, that in order to lose no time, he caused it to be worked day and night, and had for that purpose a great number of Negro slaves, who laboured in the night; and the Indians continued the work in the day time. But in the height of his prosperity, the mine in a violent storm gave way, and

and sunk so low, that though frequent searches have been made after it, the vein could not be found. At last, in the year 1743, a person discovered it by an accident of the same nature that had destroyed it; a violent tempest happened, during which, a torrent of water gushed out through the former entrance of the mine. The person, interpreting this accident as a providential indication, immediately undertook the working of it; and it has fully answered his expectations.

Within the jurisdiction of this province are many other mines, which appear to have been worked at different times, and to have yielded a great quantity of metal. The nature of the country seems best adapted to gold mines; though there are several silver veins, which appear to be very rich, and accordingly an account of them is entered in the several revenue offices, and in the records of the audience of Quito. Some have been lately worked, though with little encouragement; of this number may be said to be that of Guacaya, in the jurisdiction of Zicchos, on the frontiers of Latacunga; and another likewise of silver, about two leagues from the former. Both were worked some time, but never beyond the surface of the earth, the undertakers not having a sufficient stock of their own to work them in form; and the assistance they solicited was denied. The most celebrated silver mine in all this district, is that called Sarapullo, about eighteen leagues from the same town of Zicchos. This also was opened, but discontinued through the instability of the undertaker, and the want of proper assistance.

In the other jurisdiction, as well as in that of Latacunga, are all the indications of rich mines, though the number of them discovered is much less. The mountain of Pichincha is, by the inhabitants of Quito, thought to contain immense treasures; and the grains of gold, found in the sands of the waters which issue from it, greatly countenance the opinion; though there is not the least vestige all over the mountain, that formerly any mine was discovered or worked there. But the latter is no great objection: as the disruptions caused by storms, or process of time, are such as sometimes might entirely choak them up, and cover them so as to leave no traces of their existence; and a suitable diligence and care have not been used for the discovery of any. Besides this mountain, its whole Cordillera, together with the eastern chain of Guamani, and many other parts, equally abound with the like appearances of rich mines.

In the districts of Otabalo, and the town of San Miguel de Ibarra, in the territories of the village of Cayambe, along the sides and eminences of the vast mountain Cayamburo, are still remaining some monuments in confirmation of the tradition, that, before the conquest, mines were worked there, which yielded a vast quantity of metal. Among several mountains near the village of Mira, famed for their antient riches, is one called Pachon, from which an inhabitant of that village is certainly known to have collected, a few years ago, a vast fortune. None of these are worked: a particular, nothing strange to him who sees how the mines lately discovered are neglected, though their quality is sufficiently known.

The whole country of Pallactanga, in the jurisdiction of the town of Riobamba, is full of mines of gold and silver: and the whole jurisdiction abounds with them to such a degree, that one person with whom I was acquainted in that town, and who, by his civilities to us and the French academicians, seemed to have a soul suitable to his opulence, had entered, on his own account, at the mine office of Quito, eighteen veins of gold and silver, and all of a good quality. The ore of one of these veins, by the miners called Negrillos, being assayed at Lima, in 1728, it appeared, from a certificate of Don Juan Antonio de la Mota Torres, that it produced eighty marks of silver per chest; a very astonishing circumstance, the usual produce in rich mines being only eight or

ten marks per chest, each chest containing fifty quintals of ore. This is the case of Potosi and Lipes; which, after the expence of carrying the ore to other places, in order to its being refined, and other charges, not only answers them all at ten marks per chest, but the surplus is then very considerable. There are likewise other mines where, after being refined, a chest yields only five or six marks of silver, and in some only three; which yet will bear the expence of refining, being in a cheap country, where great numbers of people are willing to work for low wages. Besides the riches contained in the mountains belonging to the jurisdiction of Cuenca, though this rests only on an old Indian tradition, several mines have lately been discovered and worked, but not with the care requisite to reap all the advantages they offer. One of these was in the district of Alausi, at about six leagues from a plantation called Sufna; the owner of which, during the intervals of rural labour, used to employ his Indians and Negroes in taking out the ore, which he found to be very rich; but for want of a sufficient fund to prosecute this work, and at the same time not neglect his plantation, he never was able to get from the mine that immense quantity of silver which its richness seemed to promise, if worked in form. All that country is indeed so full of mines, that with an industrious turn in the minds of the inhabitants, they would be found in number and richness to equal those which have proved the sources of such infinite wealth to the southern provinces of Peru; but it is far otherwise. This supineness is thought to be owing to the great plenty; and consequently a low rate of all kinds of provisions; for the inhabitants, having all they desire for little or nothing, cannot be prevailed on to flave in digging the earth for gold; whence the inhabitants of the cities and towns are hindered from acquiring large fortunes, and consequently encreasing them by undertaking to work more mines. Add to this the prejudice, or rather apprehension of the difficulties; which are thought so great, that when a person expresses his intention of working in some mine, others look upon him as a man running headlong to his destruction, and who risks certain ruin for remote and uncertain hopes. They endeavour therefore to divert him from his purpose; and if they cannot succeed in this, they fly from him as if they were afraid lest he should communicate the infection to them. It is not therefore strange that these mines, so rich in all appearance, should be neglected, and no person found desirous of reaping the great advantages which would doubtless result from working them. This occupation, for want of being sufficiently acquainted with it, is universally dreaded: whereas in the southern provinces of Quito it is quite otherwise; the celebrated miners being men of great power, vast fortunes, and the most eminent families in the country. Besides which, are great numbers of other miners of more limited circumstances, all eagerly embracing any opportunity of employing their substance in undertaking mines.

The governments of Quijos and Majos are no less abundant in mines than the jurisdictions of Quito; those in Jaen are of infinite richness; and those of Maynas and Atacames not inferior to them. With regard to the first, it is very well known, that the Indians on the banks of the Marañon, by washing the sands of some of the rivers running into it, procure what gold they want, though their desires in this point are as moderate as the avidity of other nations are insatiable. This gold is an evident sign that the adjacent country abounds in mines. As to the second, experience has shewn that the borders of the rivers of Santiago and Mira are full of veins of gold, the Mulattos and Mestizos supplying themselves with that metal by washing the sands. But neither of them have applied themselves to discover the original veins. Besides gold and silver mines, the province of Quito has also those of other metals, and quarries of fine stone: but these are utterly disregarded by the inhabitants. Yet this province

could not attain the complete possession of its riches, if to the mines of gold and silver, nature had not added those materials which are necessary in extracting the treasures they contain, and in the other services of life: nor could this country be properly said to be rich in mines, if it afforded only those of gold and silver; but nature, that there might be no deficiency in her gift, hath also furnished it with mines of azogue or quicksilver, which are found in the southern extremity of the province, near a village of the same name belonging to the jurisdiction of Cuenca. Formerly the quicksilver for the gold and silver mines was furnished from hence; but this has been suppressed; so that at present only those of Guanica Velica are allowed to be worked: by which means a stop has been put to those frauds discovered in the payments of the fifths; the miners, instead of applying to the mine-offices within their department, or the principal staple, supplying themselves with contraband mercury. And the end has been fully answered with regard to the revenue; frauds being now much more difficult, and consequently less frequent, since the quicksilver can be had only from one mine, than when several were open. But at the same time it is certain, that this prohibition was the principal cause of the decay of the silver mines in the province of Quito: and had the case been duly examined, many other remedies might have been found to prevent these clandestine practices, besides an absolute obstruction to so great a part of the riches of that country.

It is the opinion of some naturalists, and the marks of it are indeed very evident, that the ground on which the city of Cuenca stands, is entirely an iron mine, its veins shewing themselves in the chasms of some breaches; and the pieces taken out of the sloughs prove it beyond dispute, not only by their colour and weight, but by being attracted by the magnet, when reduced to small pieces; and many intelligent persons in these species of mines affirm, that it not only is an iron-mine, but also of extreme richness; though this has not been ascertained by experiment.

It is also equally unquestionable, that, were it possible to turn the industry of the inhabitants into this channel, mines of copper, tin, and lead, might also be discovered, though no such thing is at present known. But it is natural to suppose, that, where there are so many mines of the most precious metals, those of copper and lead are not wanting. In the next chapter, I shall give some account of other mines; together with the quarries of curious stone, and several ancient monuments of antiquity, that nothing may be wanting towards the complete knowledge of this province, from which Spain derives such great advantages.

CHAP. XI. — *Monuments of the ancient Indians, in the Jurisdiction of Quito. — Account of the several Gems and Quarries found near that City.*

THE ancient inhabitants of Peru were far enough from carrying the sciences to any perfection, before the conquest of the country by the Spaniards. They were not destitute of all knowledge of them; but it was so faint and languid, that it was far from being sufficient for cultivating their minds. They had also some glimmerings of the mechanic arts; but their simplicity, or want of taste, was so remarkable, that, unless forced by absolute necessity, they never departed from the models before them. The progress and improvements they made were owing to industry, the common directress of mankind. A close application supplied the want of science. Hence, after a long series of time, and excessive labour, they raised works, not so totally void of art and beauty, but that some particulars raise the admiration of an attentive spectator. Such for instance, were some of those structures, of which we have still superb ruins, in which,

which, considering the magnitude of the works, and the few tools they were masters of, their contrivance and ingenuity are really admirable. And the work itself, though destitute of European symmetry, elegance, and disposition, is surprising, even in the very performance of it.

These Indians raised works both for the convenience and veneration of posterity. With these the plains, eminences, or lesser mountains, are covered; like the Egyptians, they had an extreme passion for rendering their burial-places remarkable. If the latter erected astonishing pyramids, in the centre of which their embalmed bodies were deposited; the Indians, having laid a body without burial in the place it was to rest in, environed it with stones and bricks as a tomb; and the dependents, relations, and intimate acquaintance of the deceased, threw so much earth on it as to form a tumulus or eminence which they called Guaca. The figure of these is not precisely pyramidal; the Indians seeming rather to have affected the imitation of nature in mountains and eminences. Their usual height is about eight or ten toises, and their length betwixt twenty and twenty-five, and the breadth something less; though there are others much larger. I have already observed, that these monuments are very common all over this country; but they are most numerous within the jurisdiction of the town of Cayambe, its plains being, as it were, covered with them. The reason of this is, that formerly here was one of their principal temples, which they imagined must communicate a sacred quality to all the circumjacent country, and thence it was chosen for the burial-place of the kings and caciques of Quito; and, in imitation of them, the caciques of all these villages were also interred there.

The remarkable difference in the magnitude of these monuments seems to indicate, that the guacas were always suitable to the character, dignity, or riches of the person interred; as indeed the great number of vassals under some of the most potent caciques, concurring to raise a guaca over his body, it must certainly be considerably larger than that of a private Indian, whose guaca was raised only by his family and a few acquaintance: with them also were buried their furniture, and many of their instruments, both of gold, copper, stone, and earth: and these now are the objects of the curiosity or avarice of the Spaniards inhabiting the country; that many of them make it a great part of their business to break up those guacas, in expectation of finding something valuable: and, misled by finding some pieces of gold here and there, they so devote themselves to this search, as to spend in it both their substance and time: though it must be owned, that many, after a long perseverance under disappointments, have at length met with rich returns for all their labour and expence. Two instances of this kind happened while we were in the country; the first guaca had been opened near the village of Cayambe, in the plain of Pesillo, a little before our arrival at Quito; and out of it were taken a considerable quantity of gold utensils; some of which we saw in the revenue-office, having been brought there as equivalents for the fifths. The second was more recently discovered in the jurisdiction of Pastos, by a Dominican friar, who, from a turn of genius for antiquities, had laid out very large sums in this amusement; and at last met with a guaca in which he is said to have found great riches. This is certain, that he sent some valuable pieces to the provincial of his order, and other persons at Quito. The contents of most of them consist only of the skeleton of the person interred; the earthen vessels in which he used to drink chicha, now called Guaqueros; some copper axes, looking-glasses of the ynca-stone, and things of that kind, being of little or no value, except for their great antiquity, and their being the works of a rude illiterate people.

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The manner of opening the guacas is, to cut the lower part at right angles, the vertical and horizontal line meeting in the centre, where the corpse and its furniture are found.

The stone mirrors taken out of the guacas are of two sorts; one of the ynca-stone, and the other of the gallinazo-stone: the former is not transparent, of a lead colour, but soft; they are generally of a circular form, and one of the surfaces flat, with all the smoothness of a crystal looking-glass; the other oval and something spherical, and the polish not so fine. They are of various sizes, but generally of three or four inches diameter, though I saw one of a foot and a half; its principal surface was concave, and greatly enlarged objects; nor could its polish be exceeded by the best workmen among us. The great fault of this stone is, its having several veins and flaws, which, besides the disadvantage to the surface of the mirror, render it liable to be broken by any little accident. Many are inclined to think that it is not natural, but artificial. There are, it must indeed be owned, some appearances of this, but not sufficient for conviction. Among the breaches in this country, some quarries of them are found; and quantities continue to be taken out, though no longer worked for the use the Indians made of them. This does not, however, absolutely contradict the fusion of them, in order to heighten their quality, or cast them into a regular form.

The gallinazo-stone is extremely hard, but as brittle as flint: it is so called from its black colour, in allusion to the colour of the bird of that name, and is in some measure diaphanous. This the Indians worked equally on both sides, and reduced it into a circular figure. On the upper part they drilled a hole for a string to hang it by; the surfaces were as smooth as those of the former, and very exactly reflect objects. The mirrors made of this stone were of different kinds, some plain, some concave, and others convex. I have seen them of all kinds: and, from the delicacy of the workmanship, one would have thought these people had been furnished with all kinds of instruments, and completely skilled in optics. Some quarries of this stone are likewise met with; but they are entirely neglected, though its transparency, colour, and hardness, besides its having no flaws or veins, render it very beautiful.

The copper axes of the Indians differ very little in their shape from ours: and it appears that these were the instruments with which they performed most of their works: for if not the only, they are the most common edge-tools found among them; and the whole apparent difference betwixt those they use, consists only in size and shape: for though they all resemble an axe, the edge in some is more circular than in others. Some have a concave edge, others a point on the opposite side, and a fluted handle. These instruments were not all of copper, some having been found of gallinazo, and of another stone something resembling the flint, but less hard and pure. Of this stone, and that of the gallinazo, are several points, supposed to have been heads of spears, as these were their two chief instruments or weapons: for, had they used any other, some would doubtless have been found among the infinite number of guacas which have been opened.

The guaqueros, or drinking-vessels, are of a very fine black earth: but the place where they were made is utterly unknown. They are round, and with a handle in the middle, the mouth on one side, and on the other the head of an Indian, whose features are so naturally expressed, that very few of our workmen could equal it. Others, though of the same form, are of a red earth. Besides which, there are found larger and smaller vessels of both kinds of earth used in making and keeping the chicha.

Among the gold pieces are the nose-jewels, which in form resemble the foot of a chalice, and very little less: these were appended to the septum, which divides the two nostrils.

nostrils. There are also found collars, bracelets, and ear-pendants, resembling the nose-jewels : but all these are no thicker than paper : the idols, which are at full length, are every where hollow within ; and as they are all of one piece, without any mark of foldering, the method they used in making them is not easily conceived. If it be said that they were cast, still the difficulty remains how the mould could be of such a fragility as to be taken away without damaging works, which, in all their parts, are so extremely thin.

The maize has ever been the delight of the Indians ; for, besides being their food, their favourite liquor chicha was made of it ; the Indian artists therefore used to shew their skill in making ears of it in a kind of very hard stone ; and so perfect was the resemblance, that they could hardly be distinguished by the eye from nature ; especially as the colour was imitated to the greatest perfection ; some represented the yellow maize, some the white ; and in others, the grains seemed as if smoke-dried by the length of time they had been kept in their houses. The most surprising circumstance of the whole is, the manner of their working, which, when we consider their want of instruments, and wretched form of those they had, appears an inexplicable mystery : for either they worked with copper tools, a mettle little able to resist the hardness of stones ; or, to give the nice polish conspicuous on their works, other stones must have been used for tools. But the labour, time, and patience, requisite to make only a hole in the gallinazos, as was made in the mirrors ; and much more to give their surfaces such a smoothness and polish, that they are not to be distinguished from the finest glass, must have been prodigious. These are works which the most ingenious of our artists would be extremely at a loss to produce, if they were allowed only pieces of copper and stones, without any other tools or materials. It is the greatest proof of the ingenuity of these people, that by mere dint of genius, and unassisted by information, they should attain to such contrivances and such a delicacy of workmanship.

Yet all that we have said is surpassed by the ingenuity of the Indians in working emeralds, with which they were supplied from the coast of Manta, and the countries dependent on the government of Atacames, Coaquis or Quaques. But these mines are now entirely lost, very probably through negligence. These curious emeralds are found in the tombs of the Indians of Manta and Acatames : and are, in beauty, size, and hardness, superior to those found in the jurisdiction of Santa Fé ; but what chiefly raises the admiration of the connoisseur is, to find them worked, some in spherical, some cylindrical, some conical, and of various other figures ; and all with a perfect accuracy. But the unfurmountable difficulty here is, to explain how they could work a stone of such hardness ; it being evident, that steel and iron were utterly unknown to them. They pierced emeralds, and other gems, with all the delicacy of the present times, furnished with so many tools : and the direction of the hole is also very observable ; in some it passes through the diameter ; in others, only to the centre of the stone, and coming out at its circumference they formed triangles at a small distance from one another : and thus the figure of the stone, to give it relief, was varied with the direction of the holes.

After this account of the guacas of these idolatrous nations, the custom which equally prevailed among the southern nations of Peru, I proceed to their superb edifices, whether temples, palaces, or fortresses : and though those in the kingdom of Quito are not the most stately and magnificent, the court and residence of the yncas having been in the province of Cusco ; yet some of the former sufficiently denote the grandeur of the Indians who then inhabited it, and their fondness for such edifices ; intending as it

were to hide the rusticity of their architecture under richness and magnificence which they profusely bestowed on their edifices, whether of brick or stone.

The greatest part of one of these works is still existing, near the town of Cayambe, being a temple built of unbaked bricks. It stands on an eminence of some height; its figure is perfectly circular, and its diameter eight toises. Of this structure nothing now remains but the walls, which are in good condition; and about two toises and a half in height, and four or five feet in thickness. The cement of the bricks is of the same earth with that of which they are made: and the hardness of them may be conceived, from remaining so long in a good condition exposed to the injuries of weather, having no cover.

Besides the ancient tradition that this structure was one of the temples of those times, the manner of its construction countenances such a conjecture: for its circular form, without any separation in the inside, shews it to have been a place of public resort, and not any habitation. The smallness of the door renders it probable, that, though the yncas entered into their palaces in the chairs in which they were carried, as will be seen hereafter, this place they entered on foot, in token of veneration; the dimensions of the door not admitting of any other manner. And, as I have before observed, that one of the principal temples was not far from hence, this was probably the very structure.

At the extremity of the plain which runs northward from Latacunga, are still seen the walls of a palace of the yncas of Quito; and is still called by its ancient name Callo. At present it serves for the mansion-house of a plantation belonging to the Augustines at Quito. If it wants the beauty and grandeur which characterise the works of the ancient Egyptians, Greeks, Romans, and other nations versed in the fine arts; yet, if we make proper allowance for the rusticity of the Indians, and compare this with their other buildings, the dignity of the prince will be abundantly conspicuous, in the prodigious magnitude of the materials, and the magnificence of the structure. You enter it through a passage five or six toises in length, leading into a court, round which are three spacious saloons, filling the three other sides of its squares. Each of these saloons has several compartments; and behind that which faces the entrance, are several small buildings, which seem to have been offices, except one; and this, from the many divisions in it, was, in all probability, a menagerie. Though the principal parts still continue, the ancient work is something disfigured, dwellings having been lately built among them, and alterations made in the chief apartments.

This palace is entirely of stone, equal in hardness to flint; and the colour almost black. They are exceedingly well cut, and joined so curiously, that the point of a knife, or even so much as a piece of the finest paper cannot be put betwixt them; so that they only shew the walls to be of different stones, and not one entire composition, but no cement is perceivable. The stones without are all of a convex figure, but at the entrance of the door are plane. But there is a visible inequality, both in the stones and in their courses, which gives a more singular air to the work; for a small stone is immediately followed by one large and ill-squared, and that above is made to fit the inequalities of the other two, and at the same time fill up all the interstices between the projections and irregularity of their faces; and this in such perfection, that, whatsoever way they are viewed, all parts appear joined with the same exactness. The height of these walls is about two toises and a half, and about three or four feet in thickness. The doors are about two toises high, and their breadth at the bottom about three or four feet, but run narrowing upwards, where the aperture is only two feet and a half. The doors of the palaces, where the yncas resided, were made of such a height, to

allow

allow room for the chairs in which the monarch was carried on men's shoulders into his apartment, the only place in which his feet touched the ground. It is not known whether this or the other palaces of the yncas had any stories, nor how they were roofed: for those we examined were either open, or had been roofed by the Spaniards: but it is highly probable that they covered them with boards, in the form of a terrace, that is, supported by beams laid across: for in the walls there is nothing near the ground that affords room for a conjecture, that they ever supported any roofs: on this horizontal roof they contrived some slope for carrying off the waters. The reason of contracting their doors at the top was, that the lintel might be of one stone; for they had no idea either of arches or of key-stones, as may be concluded from no such works occurring among all their edifices.

About fifty toises north of this palace, fronting its entrance, is a mountain, the more singular as being in the midst of a plain: its height is betwixt twenty-five and thirty toises, and so exactly, on every side, formed with the conical roundness of a sugar-loaf, that it seems to owe its form to industry; especially as the end of its slope on all sides forms exactly with the ground the same angle in every part. And what seems to confirm this opinion is, that guacas, or mausoleums, of prodigious magnitude, were greatly affected by the Indians in those times. Hence the common opinion, that it is artificial, and that the earth was taken out of the breach north of it, where a little river runs, does not seem improbable. But this is no more than conjecture, not being founded on any evident proof. In all appearance this eminence, now called Panecillo de Callo, served as a watch tower, commanding an uninterrupted view of the country, in order to provide for the safety of the prince on any sudden alarm of an invasion, of which they were under continual apprehensions, as will appear from the account of their fortresses.

About two leagues north-east of the town of Atun-Canar, or great Canar, is a fortress or palace of the yncas. It is the most entire, the largest, and best built in all the kingdom. Close by its entrance runs a little river, and the back part of it terminates in a high and thick wall at the slope of a mountain. In the middle of it is a kind of oval tower, about two toises high from the ground within the fort, but without it rises six or eight above that of the hill. In the middle of the tower is a square of four walls; which, on the side facing the country, leave no passage; and all its angles touch the circumference of the oval. On the opposite side only, is a very narrow pass, answering to the inward part of the tower. In the middle of this square is an apartment of two small rooms, without any communication, and the doors of them opposite to the space which separates them. In the sides towards the country are loop-holes; and in critical times it was made a court of guard. From the outside of this oval tower, a wall is extended on the left side about forty toises, and about twenty-five on the right; this wall was continued in a great number of irregular angles, and enclosed a large spot of ground. It had only one entrance, which was in the side opposite to the tower, and facing the last angle on the right near the rivulet. From this gate or entrance was a passage, just broad enough for two persons to walk abreast, and at the wall turned short off towards the tower, but always of the same breadth. After this it winded towards the breach, and widened so as to form a parade before the tower. In these passages, at the distance of every two or three paces, one sees niches formed within the wall, like sentry-boxes; and on the other side two doors, which were entrances to the same number of soldiers de logis, and seem to have served the corps of the garrison for barracks. In the inner square, to the left of the tower, were

that this was once the Prince's palace. All the walls being full of hollows, resembling cupboards, in which, as likewise in the two chambers of the tower, the niches, and along the passages, were stone pegs, with a head betwixt six and eight inches long, and three or four in diameter: the use of these probably was for hanging up their arms.

The whole main wall on the slope of the mountain, and descending laterally from the oval tower, is very thick, and the outside perpendicular. Within is a large rampart, and on it a parapet of an unusual height; and though the rampart reached quite round the wall, there was only one ascent to it, which was adjoining to the oval tower. The outward and inward walls are all of the same kind of stone, very hard and well-polished: and disposed like those of Callo. The apartments also were without ceiling or flooring, like those of the above-mentioned palace.

At Pomallacta, within the jurisdiction of the town of Guafuntos, are some rudera of another fortress like the former: and it is a common opinion here, that there was a subterraneous communication between these two fortifications; but this does not seem at all probable. For besides the distance of six leagues, the ground is very uneven, and interrupted by some of the smaller branches of the Cordilleras, breaches, and brooks. The inhabitants are, however, very tenacious of their opinion: and some affirm, that a few years before our arrival in the country, a person entered this subterraneous passage at the fort of Canar, but, his light going out, he was obliged to return. They farther say, that the entrance is within the fort at the foot of the tower, where indeed there is a small low door, but now choaked up with earth; and was doubtless for some use. But this does not imply that it led to the other fortresses, as, besides a great quantity of lights, there must also have been here and there vent-holes or spiracles, which, considering the mountains, is utterly impracticable.

Many other walls and ruins are seen all over the country, both in the plains, on the sides of the hills, and on their summits; but most in desert places, and without any vestige of a town or village near them; and except these three, they are either of adoves or unknown stone, without any arrangement. The more irregular are thought to be the works of Indians before they were reduced by the yncas: but those of Callo, and the other two fortresses, by their superior symmetry, shew that they are of a later date, and built under the direction of the yncas, who applied themselves with exemplary attention to promote necessary arts throughout all their conquests; possibly from this political view, that the people, sensible of the happy change, might be the better subjects. All these remains of antique edifices the Indians call Inca perca, the Yncas walls.

Another Indian method of fortification, and of which there are still some remains, was, to dig three or four ranges of moats quite round the tops of such mountains, as, though high and steep, were not subject to frosts: and every one on the inside strengthened by a parapet, whence they could safely annoy the enemy. These they called Pucuras; and within the last range of moats they built barracks for the garrison. These kinds of forts were so common, that one scarce meets with a mountain without them. On the peaks of Pambamarca, are three or four; and one of them on the place where we fixed our signal for the meridian triangles. In like manner we found them on almost all the other mountains; and the outward moat of circumvallation was above a league in extent. The breadth and depth of each was alike; but in respect of one another, there was not the same uniformity, some of them having a breadth of two toises and even more, and others not one; and the like difference is observable in their depth. It was, however, their constant care to make

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the inward bank at least three or four feet higher than the outward, to have the greater advantage over the assailants.

The junction and polish so much admired in all the remaining stone-works of the Indians, plainly shew, that they made use of some stones to polish others, by rubbing them together; it being highly improbable that they could bring them to such perfection with the few and awkward tools they used: as for the working of iron, they were undoubtedly strangers to it, there being many mines of that metal in this country, and not one of them with any marks of having ever been touched. And no iron was found among them at the arrival of the Spaniards. But, on the contrary, they shewed an extreme fondness for any thing made of that metal.

I have already mentioned the quarries, or mines, producing the two kinds of stone of which the Indians made their mirrors; and which were those most esteemed. There are likewise quarries of other stones, which, in a country where gold and silver mines do not abound, would be thought valuable. Of these one is in the plain of Talqui, south of Cuenca; out of which are taken very large and beautiful blocks of white and very clear alabaster. Its only fault is its softness: yet that is not such as to hinder all kinds of works from being made of it; or rather, its easiness contributes to their perfection: nor is there any danger of large flakes flying off, which often spoil an entire piece. The only quarries of this stone are near Cuenca; but those of rock crystal I have seen in many parts, from whence I have had some very large, clear, and transparent pieces, and of a remarkable hardness: but, as it is not esteemed here, no use is made of it; so that what is found is purely by accident. In the same jurisdiction of Cuenca, and about two leagues north-west of the city, not far from the villages of Racan and Saanlay, is a small mountain, entirely covered with flints; mostly black, some of a reddish cast, and others whitish. But, being strangers to the manner of cutting and filing them for fire-arms, the people make no use of them: and on some occasions, flints, either for muskets or pistols, have been sold at Cuenca, Quito, and all over the country, for two rials each; but one is the common price of them, being brought from Europe. Consequently, as there is here a whole quarry of them, their exorbitant price is wholly owing to a want of industry, as this would in a short time render them as expert at cutting flints as the Europeans.

After the mines of metals, and the quarries of large stones, it would be improper to omit the gems found in this province. I have already observed, that the jurisdiction of Atacames and Manta formerly abounded in emeralds of a fineness surpassing those of the mines of Santa Fé. Not a small number of them was destroyed by an error of the first Spaniards, who came hither, imagining that, if they were real gems, they would stand the stroke of a hammer on an anvil. The loss of the mines of Atacames, and the neglect of many others of gold and silver, was in some measure compensated by the discovery of several in the jurisdiction of Cuenca; but which have been but little improved, though they exhibit the most inviting signs of their great riches, namely, fragments of rubies; and which, intelligent persons say, are very fine. These are usually found among the sands of a rapid river, not far from the village of Azogues. The Indians, and others, frequently make it their business to go and wash those sands, where they find small sparks, about the bigness of a lentil, and sometimes larger; and it is not to be questioned but these are washed away by the continual alluvion of the water in its passage along the mine. But the inhabitants, content with this piddling work, do not trouble themselves to trace the origin of the mine; though there is all the appearance in the world that it would turn to very good account. I myself, when

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I was at that village, saw some of these sparks in their natural state; and both their colour and hardness sufficiently shewed that they were of a very fine sort.

Another kind of stone is found in great plenty all over this country. It is of a fine green, and harder than alabaſter, though not pellucid: but no more valued than any of the former; except that a few toys or utensils are made of it.

Here are also some mines of sulphur, and some parts afford vitriol; but no farther known than as Nature has placed them in view; not only the improvement of them being entirely neglected, but scarcely any notice taken of those which lie on the surface of the ground; either because the inhabitants stand in no need of those minerals, or from their strong aversion to any thing that requires labour.

North of Quito, betwixt two plantations, at the foot of mount Anlagua, one of which bears the same name, and the other that of Courogal, runs a very large river, which petrifies any wood, leaves, &c. thrown into it. I have had whole branches thus petrified; and the porosity of the stem, the fibres of the rind, even the smallest veins of the leaves, and the meander of its fibril, equally discernable as when fresh cut from the tree. I have also had large pieces of timber petrified, which at first sight appeared to be wood thoroughly dried; no visible alteration having been made in them, except in colour.

With all these appearances, I cannot think that the wood, leaves, and the like, which are put into the river, are really turned into stone of such a hardness as that I experienced: but as the appearance is undeniable, I shall offer an explanation of this supposed transmutation.

It must be observed, that the rocks and all the parts which this river washes, are covered with a crust of hardness little inferior to that of the main rock; and this increases its volume, and distinguishes itself from the original rock, which is something yellowish. The inference I would draw from hence is, that the water of the river is mixed with petrifying, viscid, and glutinous particles, which adhere to the body they surround: and as by their extreme subtilty they insinuate themselves through its pores, they fill the place of the fibres, which the water insensibly rots off and separates, till at length all that was leaf or wood gives way to that petrifying matter; which still retains the impression of the parts of the original, with its several veins, fibres, and ramifications. For at the time of its insinuation, the ducts of the wood, or leaves, serve for a kind of mould, by which it naturally takes the entire figure of the body into which it has obtruded itself.

An observation I made with some branches confirms me in this opinion: for, having opened them, I found some leaves and bits of wood, which snapped on breaking; and the inside was as large as real stone, the texture only remaining of its first substance. But in others, the parts consolidated by the stony matter snapped; and the fibres, not having yet undergone a total corruption, retained the appearance of wood, though some were more rotten and decayed than others. I had also some leaves, the surface of which was only covered with a very fine lapideous tegument, but within were entire leaves, except here and there a little mark of decay.

It is to be observed, that this matter much more easily fastens on any corruptible substance, than on the more compact and solid, as stones, and the like: the reason of which is, that in one it meets with pores, in which it fixes itself; but having no such hold on the harder bodies, it is soon washed off by the agitation of the water; that if now and then such crusts are seen on stones, they never make any sensible addition to their volume, though some excrement is now conspicuous from the difference of the colour; that of the petrified leaves, both within and without, is of a pale yellow; and the

the same prevails in the stems: though in these always with a mixture of that of the wood itself when dry.

Though all the jurisdictions of the kingdom of Quito, from north to south, are not molested by the vicinity of wild Indians, yet it is the misfortune of the governments of Quixos and Macas, Jean and Maynas, to be surrounded and intermixed with those barbarians; so that, by only passing the eastern Cordillera of the Andes, towards that part you usually meet with them: and from some parts of those eminences the smoke of their cottages may be seen. This sight is most frequently beheld from the mountain on the back of the town of Cayambe; and all along to the northward, from the village of Mira, within the jurisdiction of the town of San Miguel di Ibarra. The sportsmen, when hunting on those hills, often see the smoke both on this side and likewise on the same Cordillera, from the jurisdiction of Riobamba, to that of Cuenca. The village of Mira has often been surprised with the sudden appearance of some of these Indians; but they have as suddenly turned back, and with the same haste they came. It is not uncommon for Indians of these jurisdictions, from a fondness for sloth and licentiousness, to leave their houses and go over to the savages; as among them they may, without controul, follow their natural idolatry, and give themselves up to drunkenness and all manner of vice; and, what they think a supreme happiness, be served and attended by women, whose office it is to take care of and support them: all their occupation being hunting, whenever compelled by necessity, or induced by a sudden fit of industry. Thus they live in a debasement of human nature; without laws or religion; in the most infamous brutality; strangers to moderation; and without the least controul or restraint on their excesses.

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## PART II.

### ACCOUNT OF PERU AND CHILI.

#### BOOK VII.

*Account of our Journey to Lima; with a Description of the Towns and Settlements on the Road, and of the City of Lima.*

#### CHAP. I. — *Journey from Quito to Truxillo.*

THE accidents to which human enterprizes and attempts are generally exposed, direct, with an inconstant but wonderful harmony, the series of our actions and adventures, and introduce among them a great variety of alterations and changes. It is this variety which, in vegetation, embellishes nature, and equally displays the glory and wisdom of the Supreme Creator in the political and rational world; where we admire the surprising diversity of events, the infinity of human actions, and the different schemes and consequences in politics, the successive chain of which renders history so delightful, and,

and, to a reflecting mind, so instructive. The inconstancy so often seen in things the most solid and stable, is generally one of the most powerful obstacles to the advantages which might otherwise be derived from works of any duration. However great they are, either in reality, or idea, the perfection of them is not only impeded by the vicissitudes of time, and the inconstancy of things, but they even decline, and fall into ruins: some, through want of proper support and encouragement; while others, from the mind being wearied out by delays, difficulties, and a thousand embarrassments, are abandoned; the imagination being no longer able to pursue its magnificent scheme.

To measure some degrees of the meridian near the equator, the principal intention of our voyage, if considered only in idea, and abstractedly from the difficulties which attended its execution, must appear easy, and as requiring no great length of time; but experience convinced us, that a work of such importance to the improvement of science, and the interest of all nations, was not to be performed without delays, difficulties, and dangers, which demanded attention, accuracy, and perseverance. Besides the difficulties necessarily attending the requisite accuracy of these observations, the delays we were obliged to make in order to take them in the most favourable seasons, the intervening clouds, the Paramos, and disposition of the ground, were so many obstacles to our making any tolerable dispatch; and these delays filled us with apprehensions, that if any other accidents should happen, the whole design would be rendered abortive, or at least, suffer a long interruption.

It has already been observed, that while we were at Cuenca, finishing our astronomical observations in that extremity of the arch of the meridian, we unexpectedly received a letter from the Marquis de Villa Garcia, viceroy of Peru, desiring us to come with all speed to his capital: any delay on our part might have been improper; and we were solicitous not to merit an accusation of the least remissness in His Majesty's service. Thus we were under a necessity of suspending our observations for some time\*; though all that remained was the second astronomical observation, northward, where the series of our triangles terminated.

The occasion of this delay arose from an account, received by the viceroy, that war being declared between Spain and England, the latter was sending a considerable fleet on some secret designs into those seas. Several precautions had been taken to defeat any attempt; and the viceroy, being pleased to conceive that we might be of some use to him in acquitting himself with honour on this occasion, committed to us the execution of some of his measures; giving us to understand, that the choice he made of us, was the most convincing proof of the high opinion he entertained of our abilities; and indeed our obligations were the greater, as the distance of four hundred leagues had not obliterated us from his remembrance, of which he now gave us so honourable a proof.

On the 24th of September 1740, the viceroy's letter was delivered to us, and we immediately repaired to Quito, in order to furnish ourselves with necessaries for the journey.

Every thing being performed, we set out from that city on the 30th of October, and determined to go by Guaranda and Guayaquil; for, though there is a road by land through Cuenca and Loja, yet the other seemed to us the most expeditious, as the ways are neither so bad, nor mules and other beasts of carriage so difficult to be met with. The long stays in villages were here also little to be apprehended, which are frequently rendered necessary in the other road by inundations, rivers, and precipices.

\* Book V. Chap. II.

On the 30th of October we reached the Bodegas, or warehouses, of Babayoho, where, taking a canoe, we went down the river to Gayaquil; and embarking on board a small ship bound for Puna, we anchored in that port November the 3d. At this place we hired a large balza, which brought us through the gulph to Machala. For though the usual route is by the Salto de Tumbez, we were obliged to alter our course, the pilot not being well acquainted with the entrance of a creek, through which you pass to the Salta.

On the 5th, in the morning, our balza landed us on the coast of Machala, from whence we travelled by land to the town, the distance being about two short leagues. The next day we sent away our baggage in a large canoe to the Salto de Tumbez; going myself in the same canoe, being disabled by a fall the preceding day. Don George Juan, with the servants, followed on horseback: the whole country being level, is every where full of salt marshes, and overflows at high-water, so that the track is not sufficient for two to go abreast.

The Salto, where I arrived on the 7th at night, is a place which serves as a kind of harbour for boats and small vessels. It is situated at the head of some creeks, particularly that of the Jambeli, between fourteen and sixteen leagues from the coast, but entirely destitute of inhabitants, no fresh water being found in any part of the adjacent country; so that it only serves for landing goods consigned to Tumbez, where they are carried on mules, kept there for this purpose; and in this its whole trade consists. The Salto is uninhabited; nor does it afford the least shelter, all the goods brought thither being deposited in a small square; and, as rain is seldom or ever known here, there is little danger of their receiving any damage before they are carried to Tumbez.

Here, as along the sides of all the creeks, the mangrove-trees stand very thick, with their roots and branches so interwoven as to be absolutely impenetrable; though the swarms of muschitos are alone sufficient to discourage any one from going among them. The only defence against these insects is, to pitch a tent, till the beasts are loaded, and you again move forward. The more inland parts, where the tides do not reach, are covered with forests of smaller trees, and contain great quantities of deer; but, at the same time, are infested with tigers; so that, if the continual stinging of the muschitos deprives travellers of their rest, it also prevents their being surprised by the tigers, of the fury of which there are many melancholy examples.

On the 9th, in the morning, I arrived at the town of Tumbez, situated seven leagues from the Salto; the whole country through which the road lies is entirely waste, part of it being overflowed by the tides, and the other part dead sands, which reflect the rays of the sun so intensely, as to render it necessary, in general, to perform this journey in the night; for travelling seven leagues thither, and as many back, without either water or fodder, is much too laborious for the mules to undergo in the day-time. A drove of mules, therefore, never sets out from Tumbez for the Salto, till an account arrives, generally by one of the sailors belonging to the vessel, of the goods being landed, and every thing in readiness; as it would otherwise be lost labour, it being impossible that the mules should make any stay there.

Don George Juan had reached Tumbez on the 8th, and, though he did every thing in his power to provide mules for continuing our journey, we were obliged to wait there some time longer. Nor could we make any advantage of our stay here, except to observe the latitude, which we did on the ninth with a quadrant, and found it to be  $3^{\circ} 13' 16''$  south.

Near Tumbez is a river of the same name, which discharges itself into the bay of Guayaquil, almost opposite to the island of St. Clare. Barks, boats, balzas, and canoes, may

may go up and down this river, being three fathoms deep and twenty-five broad; but it is dangerous going up it in the winter season, the impetuosity of its current being then increased by torrents from the mountains. At a little distance from the Cordillera, on one side of the banks of the river, stands the town of Tumbez in a very sandy plain, interspersed with some small eminences. The town consists only of seventy houses, built of cane, and thatched, scattered up and down without any order or symmetry. In these houses are about one hundred and fifty families of Mestizos, Indians, Mulattoes, and a few Spaniards. There are besides these other families living along the banks of the river, who having the conveniency of watering their grounds, continually employ themselves in rural occupations.

The heat is excessive; nor have they here any rain for several years successively; but when it begins to fall, it continues during the winter. The whole country from the town of Tumbez to Lima, contained between the foot of the Cordillera and the sea, is known by the name of Valles, which we mention here, as it will often occur in the remaining parts of this narrative.

Tumbez was the place where, in the year 1526, the Spaniards first landed in these parts of South America, under the command of Don Francisco Pizarro; and where he entered into several friendly conferences with the princes of the country, but vassals to the Yncas. If the Indians were surprized at the sight of the Spaniards, the latter were equally so at the prodigious riches which they every where saw, and the largeness of the palaces, castles, and temples; of all of which, though built of stone, no vestiges are now remaining.

Along the delightful banks of this river, as far as the water is conveyed, maize, and all other fruits and vegetables that are natives of a hot climate, are produced in the greatest plenty; and in the more distant parts, which are destitute of this advantage, grows a kind of leguminous tree, called algarrobale, producing a bean, which serves as food for all kinds of cattle. It resembles almost that known in Spain by the name of Valencia; its pod being about five or six inches long, and only four lines broad, of a whitish colour, intermixed with veins of a faint yellow. It proves a very strengthening food to beasts of labour, and is used in fattening those for the slaughter, which hence acquire a taste remarkably delicious.

On the 14th I arrived at the town of Piura, where I was obliged to wait some time for Don George Juan, during which I entirely recovered from the indisposition I before laboured under from my fall.

Here I experienced the efficacy of the Calaguala, which I happily found not to fall short of the great reputation it has acquired in several parts of Europe.

From the town of Tumbez to the city of Piura is sixty-two leagues, which we performed in fifty-four hours, exclusive of those we rested; so that the mules, which always travel one constant pace, go something above a league an hour. To the town of Amotape, the only inhabited place in the whole road, is forty-eight leagues; the remaining part is one continued desert. At leaving Tumbez, its river is crossed in balzas, after which, for about two leagues, the road lies through thickets of algarrobale, and other trees, at the end of which the road runs along the sea-coast to Mancora, twenty-four leagues from Tumbez. In order to travel this road, an opportunity at low water must be taken for crossing a place called Malpasso, about six leagues from Tumbez; for being a high steep rock, washed by the sea during the flood, and the top of it impassable from the many chasms and precipices, there is a necessity of passing between the sea and its basis, which is about half a league in length: and this must be done before the flood returns, which soon covers this narrow way, though it is very safe at low water. During

the remainder of this journey, it is equally necessary to consult the tide; for the whole country being sandy, the mules would, from their sinking so deep in it, be tired the first league or two. Accordingly travellers generally keep along the shore, which being washed by the breaking of the waves, the sand is more compact and firm, and consequently much easier to the beasts. During the winter, there runs through Mancora a small rivulet of fresh water, to the great relief of the mules; but in summer the little remaining in its course is so brackish, that nothing but absolute necessity can render it tolerable. The banks of this rivulet are so fertile by its water, that it produces such numbers of large algarrobales, as to form a shady forest.

From Mancora, the road for fourteen leagues runs between barren mountains, at some distance from the coast, with very troublesome ascents and declivities, as far as the breach of Parinnas, where the same cautions are to be observed as at Mancora, and is the second stage; from whence the road lies over a sandy plain ten leagues in length, to the town of Amotape, and at some distance from the coast.

This town, which stands in  $4^{\circ} 51' 43''$  south latitude, is an appendix to the parish of Tumbez, belonging to its lieutenancy, and in the jurisdiction of Piura. The houses are about thirty in number, and composed of the same materials with those of Tumbez; but the inhabitants are only Indians and Mestizos. A quarter of a league from it is a river of the same name, and whose waters are of such prodigious use to the country, that it is every where cultivated, and divided into fields, producing plenty of the several grains, esculent vegetables, and fruits, natural to a hot climate; but like Tumbez, is infested with moschitos. This river in summer may be forded; but in winter, when the torrents descend from the mountains, it must be crossed in a balza, the rapidity of its current being then considerably increased. There is a necessity for passing it in going to Piura, and after this for about four leagues the road lies through woods of lofty algarrobales. These woods terminate on a sandy plain, where even the most experienced drivers and Indians sometimes lose their way, the wind levelling those hills of sand which served as marks, and effacing all the tracks formerly made; so that in travelling this country, the only direction is the sun in the day-time, and the stars in the night; and the Indians being little acquainted with the situation of these objects, are often bewildered, and exposed to the greatest hardships before they can again find their way.

From what has been said, the difficulties of travelling this road may be conceived. Besides, as far as Amotape, not only all kinds of provisions must be carried, but even water, and the requisites for kindling a fire, unless your provision consists of cold meat. In this last stage is a mine of cope, a kind of mineral tar, great quantities of which are carried to Callao, and other ports, being used in ships instead of naphtha, but has the ill quality of burning the cordage; its cheapness, however, induces them to use it mixed with naphtha.

The city of Piura, which is at present the capital of its jurisdiction, was the first Spanish settlement in Peru. It was founded in the year 1531 by Don Francisco Pizarro, who also built the first church in it. This city was originally called San Miguel de Piura, and stood in the valley of Targafala, from whence, on account of the badness of the air, it was removed to its present situation, which is on a sandy plain. The latitude of it is  $5^{\circ} 11' 1''$  south, and the variation of the needle we observed to be  $8^{\circ} 13'$  easterly. The houses are either of bricks dried in the sun, or a kind of reeds called quinchas, and few of them have any story. Here the corregidor resides, whose jurisdiction extends on one side along Valles, and on the other among the mountains. Here is an office for the royal revenue, under an accountant or treasurer, who relieve each other every six months,

months, one residing at the port of Païta, and the other in this place: at the former for receiving the duties on imports for goods landed there, and also for preventing a contraband trade; and at the latter for receiving the revenues and merchandizes on goods consigned from the mountains to Loja, or going from Tumbez to Lima.

This city contains near fifteen hundred inhabitants; and among these some families of rank, besides other Spaniards, Mestizos, Indians, and Mulattoes. The climate is hot and very dry, rains being seldom known here than at Tumbez: notwithstanding which it is very healthy. It has a river of great advantage to the inhabitants as well as the adjacent country, the soil of which is sandy, and therefore easier penetrated by the water; and being level, the water is conveyed to different parts by canals. But in the summer the river is absolutely destitute of water, the little which descends from the mountains being absorbed before it reaches the city; so that the inhabitants have no other method of procuring water, but by digging wells in the bed of the river, the depth of which must be proportioned to the length of time the drought has continued.

Piura has an hospital under the care of the Bethlehemites; and though patients afflicted with all kinds of distempers are admitted, it is particularly famous for the cure of the French disease, which is not a little forwarded by the nature of the climate. Accordingly there is here a great resort of persons infected with that infamous distemper; and are restored to their former health by a less quantity of a specific than is used in other countries, and also with greater ease and expedition.

As the whole territory of this jurisdiction within Valles produces only the algarroba, maize, cotton, grain, a few fruits and esculent vegetables, most of the inhabitants apply themselves to the breeding of goats, great numbers of which are continually sold for slaughter, and from their fat they make soap, for which they are sure of a good market at Lima, Quito, and Panama; their skins are dressed into leather called Cordovan, and for which there is also a great demand at the above cities. Another branch of its commerce is the Cabuya, or Pita, a kind of plant from whence a very fine and strong thread is made; and which abounds in the mountainous parts of its jurisdiction. Great advantages are also made from their mules; as all the goods sent from Quito to Lima, and also those coming from Spain, and landed at the port of Païta, cannot be forwarded to the places they are consigned to but by the mules of this province; and from the immense quantity of goods coming from all parts, some idea may be formed of the number of beasts employed in this trade, which continues more or less throughout the year, but is prodigious when the rivers are shallow.

Don George Juan being arrived at Piura, every thing was got ready with the utmost dispatch, and on the 21<sup>st</sup> we continued our journey. The next day we reached the town of Sechura, ten leagues distant from Piura, according to the time we were travelling it. The whole country between these two places is a level sandy desert.

Though the badness and danger of the roads in Peru scarce admit of any other method of travelling than on mules, yet from Piura to Lima there is a conveniency of going in litters. These instead of poles are suspended on two large canes, like those of Guayaquil, and are hung in such a manner as not to touch the water in fording rivers, nor strike against the rocks in the ascents or descents of difficult roads.

As the mules hired at Piura perform the whole journey to Lima, without being relieved, and in this great distance, are many long deserts to be crossed, the natural fatigue of the distance, increased by the sandiness of the roads, render some intervals of rest absolutely necessary, especially at Sechura, because on leaving that town we enter the great desert of the same name. We tarried here two days; during which we observed the latitude, and found it  $5^{\circ} 32' 33\frac{1}{2}''$  S.

The original situation of this town was contiguous to the sea, at a small distance from a point called Aguja; but being destroyed by an inundation, it was thought proper to build the present town of Sechura about a league distance from the coast, near a river of the same name, and which is subject to the same alterations as that of Piura; for at the time we crossed it no water was to be seen; whereas from the months of February or March till August or September, its water is so deep, and the current so strong, as to be passed only in balzas; as we found in our second and third journey to Lima. When the river is dry, the inhabitants make use of the above-mentioned expedient of digging wells in its beds, where they indeed find water but very thick and brackish. Sechura contains about two hundred houses of cane, and a large and handsome brick church; the inhabitants are all Indians, and consist of near four hundred families, who are all employed either as drivers of the mules or fishermen. The houses of all these towns are quite simple; the walls consisting only of common canes and reeds, fixed a little way in the ground, with flat roofs of the same materials, rain being hardly ever known here; so that they have sufficient light and air, both the rays of the sun and wind easily find a passage. The Indian inhabitants of this place use a different language from that common in the other towns both of Quito and Peru; and this is frequently the case in great part of Valles. Nor is it only their language which distinguishes them, but even their accent; for besides their enunciation, which is a kind of melancholy singing, they contract half of their last words, as if they wanted breath to pronounce them.

The dress of the Indian women in these parts, consists only of an anaco, like that of the women of Quito, except its being of such a length as to trail upon the ground. It is also much larger, but without sleeves, nor is it tied round them with a girdle. In walking they take it up a little, and hold it under their arms. Their head-dress consists of cotton cloth laced or embroidered with different colours; but the widows wear black. The condition of every one may be known by their manner of dressing their hair, maids and widows dividing it into two plaited locks, one hanging on each shoulder, whilst married women braid all their hair in one. They are very industrious, and usually employed in weaving napkins of cotton and the like. The men dress in the Spanish manner; and consequently wear shoes; but the women none. They are naturally haughty, of very good understandings, and differ in some customs from those of Quito. They are a proof of what has been observed (Book VI. Chap. VI.) with regard to the great improvement they receive from a knowledge of the Spanish language; and accordingly it is spoken here as fluently as their own. They have genius, and generally succeed in whatever they apply themselves to. They are neither so superstitious, nor so excessively given to vice as the others; so that except in their colour and other natural appearances, they may be said to differ greatly from them; and even in their propensity to intemperance, and other popular customs of the Indians, a certain moderation and love of order is conspicuous among these. But to avoid tedious repetitions, I shall conclude with observing, that all the Indians of Valles from Tumbez to Lima are industrious, intelligent, and civilized beyond what is generally imagined.

The town of Sechura is the last in the jurisdiction of Piura, and its inhabitants not only refuse to furnish passengers with mules, but also will not suffer any person of whatever rank, to continue his journey, without producing the corregidor's passport. The intention of this strictness is to suppress all abuses in trade; for there being besides this road which leads to the desert, only one other called the Rodeo; one of them must be taken; if that of the desert, mules must be hired at Sechura for carrying water for the use of the loaded mules when they have performed half their journey.

This water is put into large callebashes, or skins, and for every four loaded mules one mule loaded with water is allowed, and also one for the two mules carrying the litter. When they travel on horseback, the riders carry their water in large bags or wallets made for that purpose; and every one of the passengers, whether in the litter or on horseback, provides himself with what quantity he thinks sufficient, as during the whole journey nothing is seen but sand, and hills of it formed by the wind, and here and there masses of salt; but neither sprig, herb, flower, or any other verdure.

On the 24th we left Sechura, and crossed the desert, making only some short stops for the ease of our beasts, so that we arrived the next day at five in the evening at the town of Morrope, twenty-eight or thirty leagues distance from Sechura, though falsely computed more by the natives. The extent and uniform aspect of this plain, together with the continual motion of the sand which soon effaces all tracks, often bewilders the most experienced guides, who, however, shew their skill in soon recovering the right way; for which they make use of two expedients: first, to observe to keep the wind directly in their face; and the reverse upon their return; for the south winds being constant here, this rule cannot deceive them: second, to take up a handful of sand at different distances, and smell to it; for as the excrements of the mules impregnate the sand more or less, they determine which is the true road by the scent of it. Those who are not well acquainted with these parts, expose themselves to great danger, by stopping to rest or sleep; for when they again set forward, they find themselves unable to determine the right road; and when they once have lost the true direction, it is a remarkable instance of Providence if they do not perish with fatigue or distress, of which there are many melancholy instances.

The town of Morrope consists of between seventy and eighty houses, built like those in the preceding towns; and contains about one hundred and sixty families, all Indians. Near it runs a river called Pozuelos, subject to the same changes as those above-mentioned: though the lands bordering on its banks are cultivated, and adorned with trees. The instinct of the beasts used to this road is really surprising; for even at the distance of four leagues, they smell its water, and become so impatient that it would be difficult to stop them: accordingly they pursue themselves the shortest road, and perform the remainder of the journey with remarkable cheerfulness and dispatch.

On the 26th we left Morrope, and arrived at Lambayeque, four leagues from it: and being obliged to continue there all the 27th, we observed its latitude, and found it  $6^{\circ} 41' 37''$  south. This place consists of about one thousand five hundred houses, built some of bricks, others of bajareques, the middle of the walls being of cane, and plastered over, both on the inside and outside, with clay: the meanest consist entirely of cane, and are the habitations of the Indians. The number of inhabitants amount to about three thousand, and among them, some considerable and opulent families; but the generality are poor Spaniards, Mulattoes, Mestizos, and Indians. The parish-church is built of stone, large and beautiful, and the ornaments splendid. It has four chapels called ramos, with an equal number of priests, who take care of the spiritual concerns of the Indians, and also attend, by turns, on the other inhabitants.

The reason why this town is so populous is, that the families which formerly inhabited the city of Sana, on its being sacked in 1685, by Edward Davis, an English adventurer, removed hither; being under a farther necessity of changing their dwelling from a sudden inundation of the river of the same name, by which every thing that had escaped the ravages of the English was destroyed. It is the residence of a corregidor, having under his jurisdiction, besides many other towns, that of Morrope. One of the two officers of the revenue appointed for Truxillo, resides here. A river called Lambayeque,

eque, washes this place; which, when the waters are high, as they were when we arrived here, is crossed over a wooden bridge; but at other times may be forded, and often is quite dry.

The neighbourhood of Lambayeque, as far as the industry of its inhabitants have improved it, by canals cut from the river, abounds in several kinds of vegetables and fruits; some of the same kind with those known in Europe, and others of the Creole kind, being European fruits planted there, but which have undergone considerable alterations from the climate. About ten leagues from it are espaliers of vines, from the grapes of which they make wine, but neither so good, nor in such plenty as in other parts of Peru. Many of the poor people here employ themselves in works of cotton, as embroidered handkerchiefs, quilts, mantelets, and the like.

On the 28th we left Lambayeque, and having passed through the town of Monsefu, about four or five leagues distant from it, we halted near the sea-coast, at a place called Las Lagunas, or the Fens; these contain fresh water left in them by the overflowings of the river Sana. On the 29th we forded the river Xequetepeque, leaving the town of that name at the distance of about a quarter of a league, and in the evening arrived at the town of St. Pedro, twenty leagues from Lambayeque, and the last place in its jurisdiction. By observation we found its latitude to be  $7^{\circ} 25' 49''$  south.

St. Pedro consists of about one hundred and thirty baxareque houses, and is inhabited by one hundred and twenty Indian families, thirty of whites and Mestizos, and twelve of Mulattoes. Here is a convent of Augustines, though it seldom consists of above three persons, the prior, the priest of the town, and his curate. Its river is called Pacasmayo, and all its territories produce grain and fruits in abundance. A great part of the road from Lambayeque to St. Pedro, lies along the shore, not indeed at an equal, but never at a great distance from it.

On the 30th of November we passed through the town of Payjan, which is the first in the jurisdiction of Truxillo, and on the first of December we reached that of Chocope, thirteen or fourteen leagues distant from St. Pedro. We found its latitude to be  $7^{\circ} 46' 40''$  south. The adjacent country being watered by the river called Chicama, distributed to it by canals, produces the greatest plenty of sugar canes, grapes, fruits of different kinds, both European and Creole: and particularly maize, which is the general grain used in all Valles. From the banks of the river Lambayeque to this place, sugar canes flourish near all the other rivers, but none of them equal, either in goodness or quantity, those near the river Chicama.

Chocope consists of betwixt eighty and ninety baxareque houses, covered with earth. The inhabitants, who are between sixty and seventy families, are chiefly Spaniards, with some of the other casts; but not above twenty or twenty-five of Indians. Its church is built of bricks, and both large and decent. They report here, as something very remarkable, that in the year 1726, there was a continual rain of forty nights, beginning constantly at four or five in the evening, and ceasing at the same hour next morning, the sky being clear all the rest of the day. This unexpected event entirely ruined the houses, and even the brick church, so that only some fragments of its walls remained. What greatly astonished the inhabitants was, that during the whole time the southerly winds not only continued the same, but blew with so much force, that they raised the sand, though thoroughly wet. Two years after a like phenomenon was seen for about eleven or twelve days, but was not attended with the same destructive violence as the former. Since which time nothing of this kind has happened, nor had any thing like it been remembered for many years before.

**CHAP. II.**—*Our Arrival at Truxillo; a Description of that City, and the Continuance of our Journey to Lima.*

WITHOUT staying any longer at Chocope than is usual for resting the beasts, we continued our journey, and arrived at the city of Truxillo, eleven leagues distant, and, according to our observations, in  $8^{\circ} 6' 3''$  south latitude. This city was built in the year 1535, by Don Francisco Pizarro, in the valley of Chimo. Its situation is pleasant, notwithstanding the sandy soil, the universal defect of all the towns in Valles. It is surrounded by a brick wall, and its circuit entitles it to be classed among cities of the third order. It stands about half a league from the sea, and two leagues to the northward of it is the port of Guanchaco, the channel of its maritime commerce. The houses make a creditable appearance. The generality are of bricks, decorated with stately balconies, and superb porticos; but the other of baxareques. Both are however low, on account of the frequent earthquakes; few have so much as one story. The corregidor of the whole department resides in this city; and also a bishop (whose diocese begins at Tumbes) with a chapter consisting of three dignitaries, namely, the dean, arch-deacon, and chanter; four canons, and two prebendaries. Here is an office of revenue, conducted by an accomptant and treasurer; one of whom, as I have already observed, resides at Lambayeque. Convents of several orders are established here; a college of Jesuits, an hospital of our Lady of Bethlehem, and two nunneries, one of the order of St. Clare, and the other of St. Teresa.

The inhabitants consist of Spaniards, Indians, and all the other casts. Among the former are several very rich and distinguished families. All in general are very civil and friendly, and regular in their conduct. The women in their dress and customs follow nearly those of Lima, an account of which will be given in the sequel. Great number of chaises are seen here, there not being a family of any credit without one; as the sandy soil is very troublesome in walking.

In this climate, there is a sensible difference between winter and summer, the former being attended with cold, and the latter with excessive heat. The country of this whole valley is extremely fruitful, abounding with sugar canes, maize, fruits and garden stuff; and with vineyards and olive yards. The parts of the country nearest the mountains produce wheat, barley, and other grain; so that the inhabitants enjoy not only a plenty of all kinds of provisions, but also make considerable exports to Panama, especially of wheat and sugars. This remarkable fertility has been improved to the great embellishment of the country; so that the city is surrounded by several groves, and delightful walks of trees. The gardens also are well cultivated, and make a very beautiful appearance; which with a continual serene sky, prove not less agreeable to travellers than to the inhabitants.

About a league from the city is a river, whose waters are conducted by various canals, through this delightful country. We forded it on the 4th when we left Truxillo; and on the 5th, after passing through Moche, we came to Biru, ten leagues from Truxillo. The pass of the corregidor of Truxillo must be produced to the alcalde of Moche, for without this, as before at Sechura, no person would be admitted to continue his journey.

Biru, which lies in  $8^{\circ} 24' 59''$  south latitude, consists of fifty baxareque houses, inhabited by seventy families, of Spaniards, Indians, Mulattoes, and Mestizos. About half a league to the northward of it is a rivulet, from which are cut several trenches for watering the grounds. Accordingly the lands are equally fertile with those of Truxillo, and

and the same may be said of the other settlements farther up the river. This place we left the same day, travelling sometimes along the shore, sometimes at a league distance from it.

On the 6th we halted in a desert place called Tambo de Chao, and afterwards came to the banks of the river Santa; which having passed by means of the Chimbadores, we entered the town of the same name, which lies at about a quarter of a league from it, and fifteen from Biru. The road being chiefly over vast sandy plains intercepted between two hills.

The river Santa, at the place where it is usually forded, is near a quarter of a league in breadth, forming five principal streams, which run during the whole year with great rapidity. It is always forded, and for this purpose persons make it their business to attend with very high horses, trained up to stem the current, which is always very strong. They are called Chimbadores; and must have an exact knowledge of the fords, in order to guide the loaded mules in their passage, as otherwise the fording this river would be scarce practicable, the floods often shifting the beds of the river; so that even the Chimbadores themselves are not always safe; for the fords being suddenly changed in one of the streams, they are carried out of their depth by the current, and irretrievably lost. During the winter season, in the mountains, it often swells to such a height, as not to be forded for several days, and the passengers are obliged to wait the fall of the waters, especially if they have with them any goods; for those who travel without baggage may, by going six or eight leagues above the town, pass over it on balzas made of calabashes; though even here not without danger, for if the balza happens to meet any strong current, it is swept away by its rapidity, and carried into the sea. When we forded it, the waters were very low, notwithstanding which, we found, from three several experiments made on its banks, that the velocity of the current was thirty-five toises in twenty-nine seconds and a half; so that the current runs 4271 toises, or a league and a half in an hour. This velocity does not indeed equal what M. de la Condamine mentions in the narrative of his voyage down the river Marañon, or that of the Amazons, at the Pango, or strait of Manceriche. But doubtless when the river Santa is at its usual height, it exceeds even the celerity of the Pango: at the time of making our observations, it was at its lowest.

The latitude of the town of Santa Miria de la Parrilla, for so it is called, we determined by an observation of some stars, not having an opportunity of doing it by the sun, and found it  $8^{\circ} 57' 36''$  S. It was first built on the sea coast, from which it is now something above half a league distant. It was large, populous, the residence of a corregidor, and had several convents. But in 1685, being pillaged and destroyed by the above-mentioned English adventurer, its inhabitants abandoned it, and such as were not able to remove to a place of greater security, settled in the place where it now stands. The whole number of houses in it at present does not exceed thirty; and of these the best are only of baxareque, and the others of straw. These houses are inhabited with about fifty poor families consisting of Indians, Mulattoes and Mestizos.

During our observations, we were entertained with a sight of a large ignited exhalation, or globe of fire in the air, like that mentioned in the first volume of this work, though not so large, and less effulgent. Its direction was continued for a considerable time towards the west, till having reached the sea coast, it disappeared with an explosion like that of cannon. Those who had not seen it were alarmed, and imagining it to be a cannon fired by some ship arrived in the port, ran to arms, and hastened on horseback to the shore, in order to oppose the landing of the enemy. But finding all quiet, they returned to the town, only leaving some centinels to send advice, if any thing extraor-

dinary should happen. These igneous phenomena are so far from being uncommon all over Valles, that they are seen at all times of the night, and some of them remarkably large, luminous, and continuing a considerable time.

This town and its neighbourhood are terribly infested with moschitos. There are indeed some parts of the year when their numbers decrease, and sometimes, though very seldom, none are to be seen: but they generally continue during the whole year. The country from Piura upwards is free from this troublesome insect, except some particular towns, situated near rivers; but they swarm no where in such intolerable numbers as at Santa.

Leaving this town on the 8th, we proceeded to Guaca-Tambo, a plantation so called, eight leagues distant from Santa; and contiguous to it is the Tambo, an inn built by the Yncas for the use of travellers. It has a shed for the convenience of passengers, and a rivulet running near it.

On the 9th, we came to another plantation known by the name of Manchan, within a league of which we passed through a village called Casma la Baxa, having a church, with not more than ten or twelve houses. Half way betwixt this and Manchan is another rivulet. The latter plantation is about eight leagues distant from the former. From Manchan on the 10th, we travelled over those stony hills called the Culebras, extremely troublesome, particularly to the litters, and on the following day, being the 11th, we entered Guarmey, sixteen leagues from Manchan; and after travelling about three leagues further we reached the Pascana, or resting place, erected instead of a Tambo or inn, and called the Tambo de Culebras. The town of Guarmey is but small and inconsiderable, consisting only of forty houses, and these no better than the preceding. They are inhabited by about seventy families, few of which are Spaniards. Its latitude is  $10^{\circ} 3' 53''$  south. The corregidor has obtained leave to reside here continually, probably to be free from the intolerable plague of the moschitos at Santa, where formerly was his residence.

On the 13th we proceeded from hence to a place called Callejones, travelling over thirteen leagues of very bad road, being either sandy plains, or craggy eminences. Among the latter is one, not a little dangerous, called Salto del Frayle, or the Friar's leap. It is an entire rock, very high, and towards the sea almost perpendicular. There is however no other way, though the precipice cannot be viewed without horror; and even the mules themselves seem afraid of it by the great caution with which they take their steps. On the following day we reached Guamanmayo, a hamlet at some distance from the river Barranca, and belonging to the town of Patavirca, about eight leagues from the Callejones. This town is the last in the jurisdiction of Santa or Guarmey.

Patavirca consists only of fifty or sixty houses, and a proportional number of inhabitants: among whom are some Spanish families, but very few Indians. Near the sea coast, which is about three quarters of a league from Guamanmayo, are still remaining some huge walls of unburnt bricks; being the ruins of an antient Indian structure; and its magnitude confirms the tradition of the natives, that it was one of the palaces of the antient caciques, or princes; and doubtless its situation is excellently adapted to that purpose, having on one side a most fertile and delightful country, and on the other, the refreshing prospect of the sea.

On the 15th we proceeded to the banks of the river Barranca, about a quarter of a league distant. We easily forded it, under the direction of Chimbadores. It was now very low, and divided into three branches, but being full of stones is always dangerous. About a league further is the town of Barranca, where the jurisdiction of

**Guaura begins.** The town is populous, and many of its inhabitants Spaniards, though the houses do not exceed sixty or seventy. The same day we reached Guaura, which from Guaman Mayo makes a distance of nine leagues.

This town consists only of one single street, about a quarter of a league in length, and contains about one hundred and fifty or two hundred houses, some of which are of bricks, others of baxareques, besides a few Indian huts.

This town has a parish church, and a convent of Franciscans. Near it you pass by a plantation, extending above a league on each side of the road, which is every where extremely delightful; the country eastward, as far as the eye can reach, being covered with sugar canes, and westward divided into fields of corn, maize, and other species of grain. Nor are these elegant improvements confined to the neighbourhood of the town, but the whole valley, which is very large, makes the same beautiful appearance.

At the south end of the town of Guaura, stands a large tower, with a gate, and over it a kind of redoubt. This tower is erected before a stone bridge, under which runs Guaura river; and so near to the town that it washes the foundations of the houses, but without any damage, being a rock. From the river is a suburb which extends above half a league, but the houses are not contiguous to each other; and the groves and gardens with which they are intermixed, render the road very pleasant. By a solar observation, we found the latitude of Guaura to be  $11^{\circ} 3' 36''$  south. The sky is clear, and the temperature of the air healthy and regular. For though it is not without a sensible difference in the seasons, yet the cold of the winter, and the heats of summer, are both easily supportable.

In proceeding on our journey from Guarmey we met with a great many remains of the edifices of the Yncas. Some were the walls of palaces; others, as it were large dykes by the sides of spacious high-ways; and others fortresses, or castles, properly situated for checking the inroads of enemies. One of the latter monuments stands about two or three leagues north of Pativirca, not far from a river. It is the ruins of a fort, and situated on the top of an eminence at a small distance from the sea; but the vestiges only of the walls are now remaining.

From Guaura we came to the town of Chancay; and though the distance between this is reckoned only twelve leagues, we concluded, by the time we were travelling, it to be at least fourteen. From an observation we found its latitude  $11^{\circ} 33' 47''$  S. The town consists of about three hundred houses, and Indian huts; is very populous, and among other inhabitants can boast of many Spanish families, and some of distinguished rank. Besides its parish church, here is a convent of the order of St. Francis, and an hospital chiefly supported by the benevolence of the inhabitants. It is the capital of the jurisdiction of its name, and belongs to that of Guaura. The corregidor, whose usual residence is at Chancay, appoints a deputy for Guaura. The adjacent country is naturally very fertile, and every where well watered by canals cut from the river Passamayo, which runs about a league and a half to the southward of the town. These parts are every where sowed with maize, for the purpose of fattening hogs, in which article is carried on a very considerable trade; the city of Lima being furnished from hence.

We left Chancay the 17th; and after travelling a league beyond the river Passamayo, which we forded, arrived at the tambo of the same name, situated at the foot of a mountain of sand, exceeding troublesome, both on account of its length, steepness, and difficulty in walking; so that it is generally passed in the night, the soil not being then so fatiguing.

From

From thence on the 18th we reached Tambo de Ynca, and after travelling twelve leagues from the town of Chancay, we had at length the pleasure of entering the city of Lima.

From the distances carefully set down during the whole course of the journey, it appears that from Tumbes to Piura is sixty-two leagues, from Piura to Truxillo eighty-nine, and from Truxillo to Lima one hundred and thirteen; in all two hundred and sixty-four leagues. The greatest part of this long journey is generally performed by night; for the whole country being one continued sand, the reflection of the sun's rays is so violent, that the mules would be overcome by the heat; besides the want of water, herbage, and the like. Accordingly the road all along, is rather distinguished by the bones of the mules which have sunk under their burdens, than by any track or path. For notwithstanding they are continually passing and re-passing throughout the whole year, the winds quickly efface all the prints of their feet. This country is also so bare, that when a small herb or spring happens to be discovered, it is a sure sign of being in the neighbourhood of houses. For these stand near rivers, the moisture of which fertilizes these arid wastes, so that they produce that verdure not to be seen in the uninhabited parts: as they are such merely from their being destitute of water; without which no creature can subsist, nor any lands be improved.

In the towns we met with plenty of all necessary provisions; as flesh, fowl, bread, fruits, and wine; all extremely good, and at a reasonable price; but the traveller is obliged to dress his meat himself, if he has not servants of his own to do it for him; for in the greatest parts of the towns he will not meet with any one inclinable to do him that piece of service, except in the larger cities where the masters of inns furnish the table. In the little towns, the inns, or rather lodging-houses, afford nothing but shelter; so that travellers are not only put to the inconvenience of carrying water, wood and provisions, from one town to another, but also all kinds of kitchen utensils. Besides tame fowl, pigeons, peacocks and geese, which are to be purchased in the meanest towns, all cultivated parts of this country abound in turtle-doves, which live entirely on maize and the seeds of trees, and multiply exceedingly; so that shooting them is the usual diversion of travellers while they continue in any town; but except these, and some species of small birds, no others are to be had during the whole journey. On the other hand, no ravenous beasts, or venomous reptiles, are found here.

The distribution of waters by means of canals, which extend the benefit of the rivers to distant parts of the country, owes its origin to the royal care and attention of the Yncas; who, among other marks of their zeal for promoting the happiness of their subjects, taught them by this method, to procure from the earth, whatever was necessary either for their subsistence, or pleasure. Among these rivers, many are entirely dry or very low, when the waters cease to flow from the mountains; but others, as those of Santa Baranca, Guaura, and Passamayo, continue to run with a full stream during the greatest drought.

The usual time when the water begins to increase in these rivers is the beginning of January or February, and continues till June, which is the winter among the mountains; and, on the contrary, the summer in Valles; in the former it rains, while in the latter the sun darts a violent heat, and the south winds are scarce felt. From June the waters begin to decrease, and in November or December the rivers are at their lowest ebb, or quite dry; and this is the winter season in Valles, and the summer in the mountains. So remarkable a difference is there in the temperature of the air, though at so small a distance.

CHAP III. — *Account of the City of Lima, the Capital of Peru.*

FORTUITOUS events may sometimes, by their happy consequences, be classed among premeditated designs. Such was the unforeseen cause which called us to Peru; for otherwise the history of our voyage would have been deprived of a great many remarkable and instructive particulars; as our observations would have been limited to the province of Quito. But by this invitation of the viceroy of Peru, we are now enabled to lead the reader into that large and luxuriant field, the fertile province of Lima, and the splendid city of that name, so justly made the capital of Peru, and the queen of all the cities in South America. It will also appear that our work would have suffered a great imperfection, and the reader consequently disappointed in finding no account of those magnificent particulars, which his curiosity had doubtless promised itself, from a description of this famous city, and an accurate knowledge of the capital province. Nor would it have been any small mortification to ourselves, to have lost the opportunity of contemplating those noble objects, which so greatly increase the value of our work, though already enriched with such astronomical observations and nautical remarks, as we hope will prove agreeable to the intelligent reader. At the same time it opens a method of extending our researches into the other more distant countries, for the farther utility and ornament of this voyage; which, as it was founded on the most noble principles, should be conducted and closed with an uniform dignity.

My design however is not to represent Lima in its present situation, as I should then, instead of noble and magnificent objects, introduce the most melancholy and shocking scenes; ruined palaces, churches, towers, and other stately works of art, together with the inferior buildings of which this opulent city consisted, now thrown into ruin and confusion, by the tremendous earthquake of October the 28th, 1746; the affecting account of which reached Europe with the swiftness which usually attends unfortunate advices, and concerning which, we shall be more particular in another place. I shall not therefore describe Lima, as wasted by this terrible convulsion of nature; but as the emporium of this part of America, and endeavour to give the reader an idea of its former glory, magnificence, opulence, and other particulars which rendered it so famous in the world, before it suffered under this fatal catastrophe; the recollection of which cannot fail of being painful to every lover of his country, and every person of humanity.

The city of Lima, or as it is also called the city of the Kings, was, according to Garcilaso, in his history of the Yncas, founded by Don Francisco Pizarro, on the feast of the Epiphany, 1535; though others affirm that the first stone was not laid till the 18th of January that year; and the latter opinion is confirmed by the act, or record of its foundation, still preserved in the archives of that city. It is situated in the spacious and delightful valley of Rimac, an Indian word, and the true name of the city itself, from a corrupt pronunciation of which word the Spaniards have derived Lima. Rimac is the name by which both the valley and the river are still called. This appellation is derived from an idol to which the native Indians used to offer sacrifice, as did also the Yncas, after they had extended their empire hither; and as it was supposed to return answers to the prayers addressed to it, they called it by way of distinction Rimac, or, he who speaks. Lima, according to several observations we made for that purpose, stands in the latitude of  $12^{\circ} 2' 31''$  S. and its longitude from the meridian of Teneriffe is  $299^{\circ} 27' 7\frac{1}{2}''$ . The variation of the needle of  $9^{\circ} 2' 30''$  easterly.

Its situation is one of the most advantageous that can be imagined; for being in the centre of that spacious valley, it commands the whole without any difficulty. Northward, though at a considerable distance, is the Cordillera, or chain of the Andes; from whence some hills project into the valley, the nearest of which to the city are those of St. Christopher and Amancaes. The perpendicular height of the former, according to a geometrical mensuration performed by Don George Juan, and M. de la Condamine in 1737, is one hundred and thirty-four toises; but Father Fevillée makes it one hundred and thirty-six toises and one foot, which difference doubtless proceeds from not having measured with equal exactness, the base on which both founded their calculations. The height of the Amancaes, is little less than the former, and situated about a quarter of a league from the city.

The river, which is of the same name, washes the walls of Lima, and when not increased by the torrents from the mountains is easily forded; but at other times, besides the increase of its breadth, its depth and rapidity render fording impossible; and accordingly a very elegant and spacious stone bridge is built over it, having at one end a gate, the beautiful architecture over which is equal to the other parts of this useful structure. This gate forms the entrance into the city, and leads to the grand square, which is very large and finely ornamented. In the centre is a fountain, equally remarkable for its grandeur and capacity. In the centre is a bronze statue of Fame, and on the angles are four small basins. The water is ejected through the trumpet of the statue, and also through the mouths of eight lions which surround it, and greatly heighten the beauty of this work. The east side of the square is filled by the cathedral and the archiepiscopal palace, whose height surpasses the other buildings in the city. Its principal foundations, and the bases of its columns and pilasters, together with the capital front which faces the west, are of freestone; the inside resembles that of Seville, but not so large. The outside is adorned with a very magnificent façade or frontispiece, rising into two lofty towers, and in the centre is the grand portal. Round the whole runs a grand gallery, with a balustrade of wood, resembling brass in colour, and at proper distances are several pyramids, which greatly augment the magnificence of the structure. In the north side of the square is the viceroy's palace, in which are the several courts of justice, together with the offices of revenue, and the state prison. This was formerly a very remarkable building, both with regard to its largeness and architecture, but the greatest part of it being thrown down by the dreadful earthquake with which the city was visited, October 20th, 1687, it now consists only of some of the lower apartments erected on a terrace, and is used as the residence of the viceroy and his family.

On the west side which faces the cathedral, is the council-house, and the city prison; the south side is filled with private houses, having only one story; but the fronts being of stone, their uniformity, porticoes, and elegance, are a great embellishment to the square, each side of which is eighty toises.

The form of the city is triangular, the base, or longest side, extending along the banks of the river. Its length is 1920 toises, or exactly two-thirds of a league. Its greatest breadth from north to south, that is, from the bridge to the angle opposite to the base, is 1080 toises, or two-fifths of a league. It is surrounded with a brick wall, which answers its original intention, but is without any manner of regularity. This work was begun and finished by the Duke de la Plata, in the year 1685. It is flanked with thirty-four bastions, but without platforms or embrasures; the intention of it being merely to inclose the city, and render it capable of sustaining any sudden attack of the Indians. It has, in its whole circumference, seven gates and three posterns.

On the side of the river opposite to the city is a suburb, called St. Lazaró, which has, within these few years, greatly increased. All the streets of this suburb, like those of the city, are broad, parallel, or at right angles, some running from north to south, and others from east to west, forming squares of houses, each one hundred and fifty yards in front, the usual dimensions of all these quadras or squares in this country, whereas those of Quito are only one hundred. The streets are paved, and along them run streams of water, conducted from the river a little above the city; and being arched over contribute to its cleanliness, without the least inconveniency.

The houses, though for the most part low, are commodious, and make a good appearance. They are all of baxareque and quíncha. They appear indeed to be composed of more solid materials, both with regard to the thickness of the principal walls, and the imitation of cornices on them; and that they may the better support themselves under the shocks of earthquakes, of which this city has had so many dreadful instances, the principal parts are of wood, mortised into the rafters of the roof, and those which serve for walls are lined both within and without with wild canes, and chaglias or osiers; so that the timber-work is totally enclosed. These osiers are plastered over with clay, and whitewashed, but the fronts painted in imitation of free-stone. They afterwards add cornices and porticos which are also painted of a stone colour. Thus the whole front imposes on the sight, and strangers suppose them to be built of those materials which they only imitate. The roofs are flat, and covered only so far as is necessary to keep out the wind and intercept the rays of the sun. The pieces of timber, of which the roofs are formed, and which on the inside are decorated with elegant mouldings and other ornaments, are covered with clay to preserve them from the sun. This slender covering is sufficient, as no violent rains are ever known here. Thus the houses are in less danger than if built of more compact materials; for the whole building yields to the motions of the earthquakes, and the foundations which are connected with the several parts of the building follow the same motion; and by that means are not so easily thrown down.

The wild canes, which serve for the inner parts of the walls, resemble in length and bigness those known in Europe, but without any cavity. The wood of them is very solid, and little subject to rot. The chaglla is also a kind of shrub growing wild in the forests and on the banks of rivers. It is strong and flexible like the osier. These are the materials of which the houses in all the towns of Valles mentioned in the preceding chapter, are built.

Towards the east and west parts of the city, but within the walls, are a great many fruit and kitchen gardens; and most of the principal houses have gardens for entertainment, being continually refreshed with water by means of the canals.

The whole city is divided into the five following parishes: 1. Sagrario, which has three priests. — 2. St. Ann, and 3. St. Sebastian, each having two priests. — 4. St. Marcelo, and 5. St. Lazaró, each of which has one priest only. The parish of the latter extends itself five leagues, namely, to the valley of Carabaillo, and to it belong the many large plantations in that space; chapels are therefore erected for celebrating mass on days of precept, that the people may perform their duty without the fatigue and trouble of travelling to Lima. Here are also two chapels of ease: that of St. Salvador, in the parish of St. Ann; and that of the Orphans, in the Sagrario. There is also in the Cercado, one of the quarters of the town, a parish of Indians, under the care of the Jesuits.

The convents here are very numerous; four Dominicans, viz. La Casa grande, Recoleccion de la Magdalena, the college of St. Thomas appropriated to literature,

and Santa Rosa. Three of Franciscans, viz. Casa Grande, Recoletos de Nuestra Señora de los Angeles, or Guadalupe, and Los Descalzos de San Diego : the latter is in the suburb of San Lazaro. Three of the order of Augustin, namely, Casa Grande ; the seminary of San Ildefonso, a literary college ; and the noviciate at Nuestra Señora de Guia. Three also belong to the order of Mercy, namely, the Casa Principal, the college of St. Pedro Nolasco, and a Recoleccion, called Bethlehem.

The Jesuits have six colleges or houses, which are those of St. Paul, their principal college ; St. Martin, a college for secular students ; St. Anthony, a noviciate ; the House of Possession, or Desamparados, under the invocation of Nuestra Señora de los Dolores ; a college in the Circado, where the Indians are instructed in the precepts of religion ; and that of the Chacarilla, appointed for the exercises of St. Ignatius ; and accordingly all seculars, on their desire to perform them, are admitted. They are also allowed the liberty of beginning when most convenient for themselves, and are handsomely entertained by the college during the eight days of their continuance. But it must be observed, that of all these convents, the Casas Grandes are now the most considerable ; the others, besides being small, have but few members, and small revenues.

Besides the preceding nineteen convents and colleges, here are also an oratory of St. Philip Neri ; a monastery of the order of St. Benedict, with the title of Nuestra Señora de Monferrat, the abbé of which is commonly the only member, and sent from Spain ; and though this foundation is one of the most ancient in the whole city, its revenue is hardly sufficient to support any more : a convent called Nuestra Señora de la Buena Muerte, or the order of that name, generally known by the name of Agonizantes. This order founded an hospital in the city, in 1715, under the particular direction of the Fathers Juan Mugnos, and Juan Fernandez, who, with a lay brother of the same order having in 1736 obtained a licence from the council of the Indies, went from Spain and founded a convent of community in every form. In the suburb of St. Lazaro is also a convent of St. Francis de Paula, a modern foundation, under the name of Nuestra Señora del Scorro.

There are also in Lima three other charitable foundations, namely, St. Juan de Dios, served by the religious of that order, and appropriated to the relief of persons recovering from sickness ; and two of Bethlehemites ; one of which, being the Casa Grande, is without the city, and founded for the relief of sick Indians, who are taken care of in Santa Anna ; and the other within the city, called that of the Incurables, being appropriated to persons labouring under diseases of that nature. The latter, as we have already observed,\* was founded so early as the year 1671. This opulent city has also nine other hospitals, each appropriated to some peculiar charity : —

1. San Andres, a royal foundation admitting only Spaniards.
2. San Pedro, for poor ecclesiastics.
3. El Espiritu Santo, for mariners, and supported by the ships belonging to these seas, their crews being properly assessed for that purpose.
4. St. Bartholome, for the negroes.
5. Señora Santa Anna, for the Indians.
6. San Pedro de Alcantara, for women.
7. Another for that use, under the care of the Bethlehemite fathers, erected before their Casa Grande.

8. La Caridad, also for women.

9. San Lazaro, for the lepers, which, with those already enumerated, make twelve.

Here are also fourteen nunneries, the number of persons in which would be sufficient to people a small town. The five first are regulars, and the other nine recolects :

1. La Encarnation. — 2. La Conception. — 3. Santa Cathalina. — 4. Santa Clara. — 5. La Trinidad. — 6. El Carmen. — 7. Santa Terefa, ò El Carmen baxo. — 8. Las Descalzas de San Joseph. — 9. Las Capuchinas. — 10. Las Nazarenas. — 11. Las Mercedarias. — 12. Santa Rosa. — 13. Las Trinitarias Descalzas. — 14. Las Monjas del Prado.

Lastly, Here are four other conventual houses, where some few of the sisters are not recluses, though most of them observe that rule. These houses are :

1. Santa Rosa de Viterbo. — 2. Nuestra Senora del Patrocinio. — 3. Nuestra Senora de Capacabana, for Indian ladies. — 4. San Joseph.

The last is a retreat for women who desire to be divorced from their husbands. There is also a house constituted in the manner of convents, for poor women, and under the direction of an ecclesiastic appointed by the archbishop, who is also their chaplain.

The most numerous of all these nunneries are the Incarnation, Conception, Santa Clara, and Santa Cathalina. The others are indeed not so large ; but the Recolects, in the rectitude and austerity of their lives, are an example to the whole city.

Here is also an orphan-house, divided into two colleges, one for the boys, and the other for the girls ; besides several chapels, in different parts of the city : but the following list will shew at once, the parishes, hospitals, churches, and monasteries of Lima, which was always no less conspicuous with regard to a zeal for religion than for splendour.

*List of the Parishes, Convents of each Order, Hospitals, Nunneries, and Conventual Houses in Lima.*

Parishes, six.

Convents of San Domingo, four. — Of San Francis, three. — Of San Augustin, three. — Of La Merced, three.

Colleges of Jesuits, six.

Oratory of St. Philip Neri, one.

Monastery of Benedictins, one. — Of San Francisco de Paula, one. — Of Agonizantes, one. — Of San Juan de Dios, one. — Of Bethlehemites, two.

Nunneries of Regulars, five. — Of Recolects, nine.

Conventual Houses, four. — Houses for poor women, one. — Orphan house, one. — Hospitals, twelve.

All the churches, both conventual and parochial, and also the chapels, are large, constructed partly of stone, and adorned with paintings and other decorations of great value ; particularly the cathedral, the churches of St. Dominic, St. Francis, St. Augustin, the Fathers of Mercy, and that of the Jesuits, are so splendidly decorated, as to surpass description, an idea being only to be formed by the sight. The riches and pomp of this city, especially on solemn festivals, are astonishing. The altars, from their

their very bases to the borders of the paintings, are covered with massive silver, wrought into various kinds of ornaments. The walls also of the churches are hung with velvet, or tapestry of equal value, adorned with gold and silver fringes; all which, in this country, is remarkably dear; and on these are splendid pieces of plate, in various figures. If the eye be directed from the pillars, walls, and ceiling, to the lower part of the church, it is equally dazzled with glittering objects, presenting themselves on all sides: among which are candlesticks of massive silver, six or seven feet high, placed in two rows along the nave of the church: embossed tables of the same metal, supporting smaller candlesticks; and in the intervals betwixt them pedestals on which stand the statues of angels. In fine, the whole church is covered with plate, or something equal to it in value; so that divine service, in these churches, is performed with a magnificence scarce to be imagined; and the ornaments, even on common days, with regard to their quantity and richness, exceed those which many cities of Europe pride themselves with displaying on the most common occasions.

If such immense riches are bestowed on the body of the church, how can imagination itself form an idea of those more immediately used in divine worship, such as the sacred vessels, the chalices, ostensoriums, &c. in the richness of which there is a sort of emulation between the several churches? In these the gold is covered with diamonds, pearls, and precious stones, so as to dazzle the eye of the spectator. The gold and silver stuffs for vestments and other decorations, are always of the richest and most valuable among those brought over by the register ships. In fine, whatever is employed in ornamenting the churches, is always the richest of the kind possible to be procured.

The principal convents are very large, with convenient and airy apartments. Some parts of them, as the outward walls which inclose them, are of unburnt brick; but the building itself of quinchas or baxareques. The roofs of many are arched with brick, others only with quinchas; but of such curious architecture, as entirely to conceal the materials; so that the frontispieces and principal gates have a majestic appearance. The columns, friezes, statues, and cornices, are of wood, finely carved, but so nearly imitating the colour and appearance of stone, as only to be discovered by the touch. This ingenious imitation does not proceed from parsimony, but necessity; in order to avoid as much as possible the dreadful devastations of earthquakes, which will not admit of structures built of ponderous materials.

The churches are decorated with small cupolas of a very pretty appearance: and though they are all of wood, the sight cannot distinguish them from stone. The towers are of stone from the foundation the height of a toise and a half, or two toises, and from thence to the roof of the church of brick, but the remainder of wood painted of a free-stone colour, terminating in a statue, or image, alluding to the name of the church. The height of these may be nearly known from that of St. Dominic, which by a geometrical mensuration, we found to be between fifty and sixty yards; a height which, though small in proportion to the largeness of the structure, is a necessary caution, both with regard to the shocks of earthquakes, and the weight of the bells, which, in size and number, exceed those of Spain, and, on a general ringing, produce a very agreeable harmony.

All the convents are furnished with water from the city, though not from that of the rivulets, which, as we before observed, run through the streets in covered channels; but brought from a spring by means of pipes: while, on the other hand, both the monasteries and nunneries are each obliged to maintain a fountain in the street, for the public use of poor people, who have not the convenience of water in their houses.

The viceroys, whose power extends over all Peru, usually reside at Lima: but the province and audience of Quito has been lately detached from it; as we have observed in our account of that province. This government is triennial, though, at the expiration of that term, the sovereign may prolong it. This office is of such importance, that the viceroy enjoys all the privileges of royalty. He is absolute in all affairs, whether political, military, civil, criminal, or relating to the revenue, having under him offices and tribunals for executing the several branches of government; so that the grandeur of this employment is in every particular equal to the title. For the safety of his person, and the dignity of his office, he has two bodies of guards; one of horse consisting of one hundred and sixty private men, a captain, and a lieutenant: their uniform is blue, turned up with red, and laced with silver. This troop consists entirely of picked men, and all Spaniards. The captain's post is esteemed very honourable. These do duty at the principal gate of the palace; and when the viceroy goes abroad, he is attended by a piquet-guard consisting of eight of these troopers. The second is that of the halberdiers, consisting of fifty men, all Spaniards, dressed in a blue uniform, and crimson velvet waistcoats laced with gold. These do duty in the rooms leading to the chamber of audience, and private apartments. They also attend the viceroy when he appears in public, or visits the offices and tribunals. The only officer of this body is a captain, whose post is also reckoned very eminent. Both captains are nominated by the viceroy. Besides these, there is another guard within the palace, consisting of one hundred private men, a captain, lieutenant, and sub-lieutenant; being a detachment from the garrison of Callao. These are occasionally employed in executing the governor's orders, and the decrees of the tribunals, after they have received the sanction of his assent.

The viceroy, besides assisting at the courts of justice, and the councils relating both to the finances and war, gives every day public audience to all sorts of persons; for which purpose, there are in the palace three very grand and spacious rooms. In the first, which is adorned with the portraits of all the viceroys, he receives the Indians and other casts. In the second, he gives audience to the Spaniards; and, in the third, where under a rich canopy are placed the pictures of the King and Queen then reigning, he receives those ladies who desire to speak to him in private without being known.

The affairs relating to the government are expedited by a secretary of state, with an assistant, properly qualified for such an arduous post. From this office are issued the orders for passports, which must be had from every corregidor in his jurisdiction. The secretary has also the power of filling all juridical employments as they become vacant, for the term of two years; as also those of the magistracy, who, at the expiration of their term, have not been replaced by others of His Majesty's nomination. In a word, this office may be said to be the channel by which all affairs relating both to war and government are transacted.

All causes relating to justice are tried in the court called the *Audiencia*, from the decrees of which there is no appeal to the supreme council of the Indies, unless after notorious injustice, or a second trial; as the viceroy himself presides in it. The audiencia, which is the chief court at Lima, is composed of eight auditors or judges, and a fiscal for civil causes. This court is held in the viceroy's palace, in the three saloons appropriated to it. In one the deliberations are held, and in the other two, the causes are tried either publicly or privately, the senior judge always presiding. Criminal causes are tried in a fourth apartment, the judges being four alcaldes of the court, and a criminal

criminal fiscal. There is also a fiscal protector of the Indians, and some supernumeraries.

Next to the tribunal of audience is the chamber of accounts, consisting of a commissioner, five chief accountants, two receivers, and two directors, with other inferior officers belonging to each class. Here all corregidores, intrusted to collect the revenue, pass their accounts. Here also the distributions and managements of the royal revenue are regulated.

Lastly, the royal treasury, under a treasurer, accountant, and agent, who have the superintendence of all His Majesty's revenue of what kind soever; since whatever revenue arises from the other parts of this province is remitted to Lima as the capital of the kingdom.

The corporation of Lima consists of regidores or aldermen, and alferes zreal, or sheriff, and two alcaldes, or royal judges; all being noblemen of the first distinction in the city. These have the direction of the police, and the ordinary administration of justice. The alcaldes preside alternately every month; for, by a particular privilege of this city, the jurisdiction of its corregidor extends only to the Indians.

Here is a court for the effects of deceased persons, which takes cognizance of the goods of those dying intestate, and without lawful heir; and likewise of those entrusted with the effects of other persons. Its consists of a judge, who is generally one of the auditors, a counsellor, and an accountant.

The next tribunal is that of commerce, or the consulado. Its principal officers are a president and two consuls. All who are entered in the list of merchants are members of it, and have a vote in the choice of these officers, who, with an assessor, decide all commercial disputes and processes, by the same rule as the consulados at Cadiz and Bilboa.

Lima has also a corregidor, whose jurisdiction extends to all Indians both within the city and five leagues round it. The principal places in this jurisdiction are Surco, Los Chorillos, Miraflores, La Magdalena, Lurigancho, Late, Pachacama, and Lurin, together with the Indian inhabitants of the two suburbs of Callao, called New and Old Pitipiti. The infinite number of Indians who inhabited this valley before and at the time of the conquest, are now reduced to the few inhabitants of the above-mentioned places; and have only two caziques, namely, those of Miraflores and Surco, and these in such low circumstances, as to teach music at Lima for subsistence.

The cathedral chapter, besides the archbishop, consists of the dean, archdeacon, chanter, treasurer, and rector, four canons by suffrage, five by presentation, six prebendaries, and six semi-prebendaries; but the ecclesiastical tribunal consists only of the archbishop and his chancellor. His suffragans are the bishops of Panama, Quito, Truxillo, Guamanga, Arequipa, Cuzco, St. Jago, and Conception; the two last are in the kingdom of Chili.

The tribunal of inquisition consists of two inquisitors and a fiscal, who, like the subordinate officers are nominated by the inquisitor-general; and, in case of a vacancy, filled up by the supreme council of the inquisition.

The tribunal of the Cruzada is conducted by a sub-delegate commissary, an accountant, and treasurer, with other inferior officers. But the dean or senior judge of the audience, generally assists at its deliberations.

Lastly, here is also a mint with its proper officers, where gold and silver are coined.

In the university and colleges, the happy geniuses of the natives are improved by divine and human learning, and, as we shall shew in the sequel, soon give elegant specimens

cimens of their future acquisitions. They are in this much more indebted to nature than either to art or to their own application; and if they do not equally distinguish themselves in other studies, it is not for want of talents, but of proper persons to instruct them in the necessary elements. For by their ready comprehension of whatever is taught them we may conclude, that their abilities are equal to other improvements. The chief of these seminaries is the university of St. Mark, and the colleges of St. Toribio, St. Martin, and St. Philip. In the former are chairs for all the sciences, and filled by suffrage; a method always favourable for persons of learning and understanding. Some of these professors have, notwithstanding the vast distance, gained the applause of the literati of Europe.

The university makes a stately appearance without, and its inside is decorated with suitable ornaments. It has a large square court, with a handsome vaulted piazza round it. Along the sides are the halls, where lectures are read; and in one of its angles is the theatre for the public arts, adorned with the portraits of the several great men who had their education in this seat of learning, in frames finely ornamented with sculpture, and richly gilded; as are also the two rows of seats which extend entirely round the theatre.

From what has been said it sufficiently appears, that Lima is not only large, magnificent, and distinguished, as the capital of the kingdom, by the residence of the viceroy, and the superior courts and offices, but also that it has an acknowledged superiority over the other cities in these parts from the public nurseries erected for the advancement of learning and the sciences.

The richness of the churches, and the splendour with which divine service is performed, we have already described. The magnificence of its inhabitants and of its public solemnities are proportional, and displayed with a dignity peculiar to minds inflamed with a desire of honour, and who value themselves on celebrating the principal solemnities in a manner which distinguishes Lima from the other cities of its kingdom; though the latter are not wanting in their endeavours to vie with their capital.

Of all the solemnities observed in America, the public entrance of the viceroy is the most splendid; and in which the amazing pomp of Lima is particularly displayed. Nothing is seen but rich coaches and calashes, laces, jewels, and splendid equipages, in which the nobility carry their emulation to an astonishing height. In a word, this ceremony is so remarkable, that I flatter myself the reader will not be displeased at the description.

#### CHAP. IV.—*Of the Public Entrance of the Viceroy at Lima; his Reception, and the chief annual Solemnities.*

ON the landing of the viceroy at Paita, two hundred and four leagues from Lima, he sends a person of great distinction, generally some officer of his retinue, to Lima, with the character of an ambassador; and, by a memoir, informs his predecessor of his arrival, in conformity to His Majesty's orders, who had been pleased to confer on him the government of that kingdom. On this ambassador's arrival at Lima, the late viceroy sends a messenger to compliment him on his safe arrival; and on dismissing the ambassador, presents him with some jewel of great value, and a jurisdiction or two which happen at that time to be vacant, together with an indulgence of officiating by deputy, if most agreeable to him. The corregidor of Piura receives the new viceroy at Paita, and provides litters, mules, and every other necessary for the viceroy and his retinue, as far

as the next jurisdiction. He also orders booths to be built at the halting-places in the deserts; attends him in person, and defrays all the expences, till relieved by the next corregidor. Being at length arrived at Lima, he proceeds, as it were incognito, through the city to Callao, about two leagues and a half distant. In this place he is received and acknowledged by one of the ordinary alcaldes of Lima, appointed for that purpose, and also by the military officers. He is lodged in the viceroy's palace, which on this occasion is adorned with astonishing magnificence. The next day all the courts, secular and ecclesiastical, wait on him from Lima, and he receives them under a canopy in the following order. The audiencia, the chamber of accounts, the cathedral chapter, the magistracy, the consulado, the inquisition, the tribunal de Cruzada, the superiors of the religious orders, the colleges, and other persons of eminence. On this day the judges attend the viceroy to an entertainment given by the alcalde; and all persons of note take a pride in doing the like to his attendants. At night there is a play, to which the ladies are admitted veiled, and in their usual dress, to see the new viceroy.

The second day after his arrival at Callao, he goes in a coach provided for him by the city, to the chapel de la Legua, so called from its being about half-way between Callao and Lima, where he is met by the late viceroy, and both alighting from their coaches, the latter delivers to him a truncheon as the ensign of the government of the kingdom. After this, and the usual compliments, they separate.

If the new viceroy intends to make his public entry into Lima in a few days, he returns to Callao, where he stays till the day appointed; but as a longer space is generally allowed for the many preparatives necessary to such a ceremony, he continues his journey to Lima, and takes up his residence in his palace, the fitting up of which on this occasion is committed to the junior auditor, and the ordinary alcalde.

On the day of public entry, the streets are cleaned, and hung with tapestry, and magnificent triumphal arches erected at proper distances. At two in the afternoon the viceroy goes privately to the church belonging to the monastery of Montserrat, which is separated by an arch and a gate from the street, where the cavalcade is to begin. As soon as all who are to assist in the procession are assembled, the viceroy and his retinue mount on horses, provided by the city for this ceremony, and the gates being thrown open, the procession begins in the following order:

The militia; the colleges; the university, with the professors in their proper habits; the chamber of accounts; the audiencia on horses, with trappings; the magistracy, in crimson velvet robes, lined with brocade of the same colour, and a particular kind of caps on their heads, a dress only used on this occasion. Some members of the corporation who walk on foot, support the canopy over the viceroy; and the two ordinary alcaldes, who are in the same dress, and walk in the procession, act as equerries, holding the bridle of his horse. This part of the ceremony, though prohibited by the laws of the Indians, is still performed in the manner I have described; for the custom being of great antiquity, the magistrates have not thought proper to alter it, that the respect to the viceroy might not suffer any diminution, and no person has yet ventured to be the first in refusing to comply with it.

This procession is of considerable length, the viceroy passing through several streets till he comes to the great-square, in which the whole company draw up facing the cathedral, where he alights, and is received by the archbishop and chapter. Te Deum is then sung before the viceroy, and the officers placed in their respective seats; after which he again mounts his horse, and proceeds to the palace gate, where he is received by the audiencia, and conducted to an apartment in which a splendid collation is provided, as are also others for the nobility in the antichambers.

On the morning of the following day he returns to the cathedral in his coach, with the retinue and pomp usual in solemn festivals and public ceremonies. He is preceded by the whole troop of horse-guards, the members of the several tribunals in their coaches, and after them the viceroy himself with his family, the company of halberdiers bringing up the rear. On this occasion all the riches and ornaments of the church are displayed; the archbishop celebrates in his pontifical robes the mass of thanksgiving; and the sermon is preached by one of the best orators of the chapter. From hence the viceroy returns to the palace attended by all the nobility, who omit nothing to make a splendid figure on these occasions. In the evening of this, and the two following days, the collations are repeated, with all the plenty and delicacy imaginable. To increase the festivity, all women of credit have free access to the halls, galleries, and gardens of the palace, when they are fond of shewing the dispositions of their genius, either by the vivacity of repartees, or spirited conversations, in which they often silence strangers of very ready wit.

This shew and ceremony is succeeded by bull-feasts at the city's expence, which continue five days; the three first for the viceroy, and the two latter in compliment to the ambassador who brought advice of his arrival, and the great honour conferred on him by the sovereign in the government of this kingdom.

This ambassador, who, as I before observed, is always a person of eminent quality, makes also a public entrance into Lima on horseback on the day of his arrival, and the nobility being informed of his approach, go out to receive and conduct him to the palace, from whence they carry him to the lodgings prepared for him. This ceremony used to be immediately followed by feasts and public diversions; but in order to avoid that inconvenience, just when the city is every where busied in preparing for the reception of the viceroy, they are deferred, and given at one and the same time, as above recited.

The bull-feasts are succeeded by that ceremony, in which the university, the colleges, the convents and nunneries, acknowledged him as their viceregal protector. This is also accompanied with great splendour, and valuable prizes are bestowed on those who make the most ingenious compositions in his praise. These ceremonies, which greatly heighten the magnificence of this city, are so little known in Europe, that I shall be excused for enlarging on them.

They are begun by the university, and the rector prepares a poetical contest, adapted to display either the wit or learning of the competitors. After publishing the themes, and the prizes to be given to those who best handle the subjects they have chosen, he waits on the viceroy to know when he will be pleased to honour the university with his presence; and, the time being fixed, every part of the principal court is adorned with the utmost magnificence. The prizes, which are placed in order, distinguish themselves by their richness, while the pillars and columns are hung with emblematical devices, or pertinent apophthegms on polished shields, surrounded by the most beautiful mouldings.

The reception is in the following order. On the viceroy's entering the court, he is conducted to the rectorial chair, which, on this occasion, glitters with the magnificence of an Eastern throne. Opposite to it sits the rector, or, in his absence, one of the most eminent members of that learned body, who makes a speech, in which he expresses the satisfaction the whole university feels in such a patron. After this the viceroy returns to his palace, where, the day following, the rector presents him with a book, containing the poetical contest, bound in velvet, and plated at the corners with gold, accompanied with some elegant piece of furniture, whose value is never less than eight hundred or a thousand crowns.

The principal end of the university in this ceremony being to ingratiate itself with the viceroy and his family, the rector contrives that the poetical pieces which gain the prizes be made in the name of the principal persons of his family, and accordingly the most distinguished prizes are presented to them; and there being twelve subjects in the contest, there are three prizes for each, of which the two inferior fall to those members whose compositions are most approved of. These prizes are pieces of plate, valuable both for their weight and workmanship.

The university is followed by the colleges of St. Philip and St. Martin, with the same ceremonies, except the poetical contest.

Next follow the religious orders, according to the antiquity of their foundation in the Indies. These present to the viceroy the best theses maintained by students at the public acts.

The viceroy is present at them all, and each disputant pays him some elegant compliment, before he enters on his subject.

The superiors of the nunneries send him their congratulatory compliments, and when he is pleased in return to visit them, they entertain him with a very fine concert of music, of which the vocal parts are truly charming; and at his retiring they present him with some of the chief curiosities which their respective institutes allow to be made by them.

Besides these festivities and ceremonies, which are indeed the most remarkable, there are also others, some of which are annual, in which the riches and liberality of the inhabitants are no less conspicuous. Particularly on New-year's day, at the election of alcaldes, who being afterwards confirmed by the viceroy, appear publicly on horseback the same evening, and ride on each side of him, in very magnificent habits ornamented with jewels, and the furniture of their horses perfectly answerable. This cavalcade is very pompous, being preceded by the two companies of horse-guards, the halberdiers, followed by the members of the tribunals in their coaches, the viceroy's retinue, and the nobility of both sexes.

On Twelfth day in the morning, and the preceding evening, the viceroy rides on horseback through the town, with the royal standard carried in great pomp before him. This is performed in commemoration of the building of the city, which, as we have already observed, was begun on this day; solemn vespers are sung in the cathedral, and a mass celebrated; and the ceremony is concluded with a cavalcade, like that on New-year's day.

The alcaldes chosen for the current year give public entertainments in their houses, each three nights successively; but that the feasts of one might not interfere with those of another, and occasion resentments, they agree for one to hold his feasts the three days immediately succeeding the election, and the other on Twelfth day and the two following. Thus each has a great number of guests, and the entertainments are more splendid and sumptuous. The other feasts in the course of the year are not inferior to these either with regard to numbers or expence; at least the number of them must excite a high idea of the wealth and magnificence of Lima.

## CHAP. V. — *Of the Inhabitants of Lima.*

HAVING, in our accounts of several towns through which we passed to Lima, included also the inhabitants, we shall observe the same rule with regard to Lima; for though amidst such an infinite variety of customs, there is always some resemblance be-

tween those of neighbouring people, yet the difference is also considerable, and no where more so than on this continent, where it doubtless arises from the great distance between the several towns; and, consequently, I may say, from the different geniuses and dispositions of the people. And though Lima is the capital of the country, it will appear that it is not a model to other places, with regard to dress, customs, and manner of living.

The inhabitants of Lima are composed of whites, or Spaniards, Negroes, Indians, Mestizos, and other casts, proceeding from the mixture of all three.

The Spanish families are very numerous; Lima according to the lowest computation, containing sixteen or eighteen thousand whites. Among these are reckoned a third or fourth part of the most distinguished nobility of Peru; and many of these dignified with the style of ancient or modern Castilians, among which are no less than forty-five counts and marquises. The number of knights belonging to the several military orders is also very considerable. Besides these are many families no less respectable, and living in equal splendour; particularly twenty-four gentlemen of large estates, but without titles, though most of them have ancient seats, a proof of the antiquity of their families. One of these traces, with undeniable certainty, his descent from the Yncas. The name of this family is Ampuero, so called from one of the Spanish commanders at the conquest of this country, who married a Coya, or daughter of the Ynca. To this family the kings of Spain have been pleased to grant several distinguishing honours and privileges, as marks of its great quality: and many of the most eminent families in the city have desired intermarriages with it. All those families live in a manner becoming their rank, having estates equal to their generous dispositions, keeping a great number of slaves and other domestics, and those who affect making the greatest figure have coaches, while others content themselves with calashes or chaises, which are here so common, that no family of any substance is without one. It must be owned that these carriages are more necessary here than in other cities, on account of the numberless droves of mules which continually pass through Lima, and cover the streets with their dung, which being soon dried by the sun and the wind, turns to a nauseous dirt, scarce supportable to those who walk on foot. These chaises, which are drawn by a mule, and guided by a driver, have only two wheels, with two seats opposite to each other, so that on occasion they will hold four persons. They are very slight and airy; but on account of the gildings and other decorations, sometimes cost eight hundred or a thousand crowns. The number of them is said to amount to five or six thousand; and that of coaches is also very considerable, though not equal to the former. The funds to support these expences, which in other parts would ruin families, are their large estates and plantations, civil and military employments, or commerce, which is here accounted no derogation to families of the greatest distinction; but by this commerce is not to be understood the buying and selling by retail or in shops, every one trading proportional to his character and substance. Hence families are preserved from those disasters too common in Spain, where titles are frequently found without a fortune capable of supporting their dignity. Commerce is so far from being considered as a disgrace at Lima, that the greatest fortunes have been raised by it; those on the contrary, being rather despised, who not being blessed with a sufficient estate, through indolence, neglect to have recourse to it for improving their fortunes. This custom, or resource, which was established there without any determinate end, being introduced by a vain desire of the first Spaniards to acquire wealth, is now the real support of that splendour in which those families live; and whatever repugnance these military gentlemen might originally have to commerce, it was

It was immediately removed by a royal proclamation, by which it was declared that commerce in the Indies should not exclude from nobility or the military orders; a very wise measure, and of which Spain would be still more sensible, were it extended to all its dependencies.

At Lima, as at Quito, and all Spanish America, some of the eminent families have been long since settled there, whilst the prosperity of others is of a later date; for being the centre of the whole commerce of Peru, a greater number of Europeans resort to it, than to any other city; some for trade, and others from being invested in Spain with considerable employments: among both are persons of the greatest merit; and though many after they have finished their respective affairs, return home, yet the major part, induced by the fertility of the soil, and the goodness of the climate, remain at Lima, and marry young ladies remarkable equally for the gifts of fortune as those of nature; and thus new families are continually settled.

The Negroes, Mulattoes, and their descendants, form the greater number of the inhabitants; and of these are the greatest part of the mechanics; though here the Europeans also follow the same occupations, which are not at Lima reckoned disgraceful to them, as they are at Quito; for gain being here the universal passion, the inhabitants pursue it by means of any trade, without regard to its being followed by Mulattoes, interest here preponderating against any other consideration.

The third, and last class of inhabitants, are Indians and Mestizos, but these are very small in proportion to the largeness of the city, and the multitudes of the second class. They are employed in agriculture, in making earthenware, and bringing all kinds of provisions to market, domestic services being performed by Negroes and Mulattoes, either slaves or free, though generally by the former.

The usual dress of the men differs very little from that worn in Spain, nor is the distinction between the several classes very great; for the use of all sorts of cloth being allowed, every one wears what he can purchase. So that it is not uncommon to see a Mulatto, or any other mechanic, dressed in a tissue equal to any thing that can be worn by a more opulent person. They all greatly affect fine cloaths, and it may be said without exaggeration, the finest stuffs made in countries, where industry is always inventing something new, are more generally seen at Lima than in any other place; vanity and ostentation not being restrained by custom or law. Thus the great quantities brought in the galleons and register ships, notwithstanding they sell here prodigiously above their prime cost in Europe, the richest of them are used as cloaths, and worn with a carelessness little suitable to their extravagant price; but in this article the men are greatly exceeded by the women, whose passion for dress is such as to deserve a more particular account.

In the choice of laces, the women carry their taste to a prodigious excess; nor is this an emulation confined to persons of quality, but has spread through all ranks, except the lowest class of Negroes. The laces are sewed to their linen, which is of the finest sort, though very little of it is seen, the greatest part of it, especially in some dresses, being always covered with lace; so that the little which appears seems rather for ornament than use. These laces too must be all of Flanders manufacture, no woman of rank condescending to look on any other.

Their dress is very different from the European, which the custom of the country alone can render excusable; indeed to Spaniards at their first coming over it appears extremely indecent. Their dress consists of a pair of shoes, a shift, a petticoat of dimity, an open petticoat, and a jacket, which in summer is of linen, in winter of stuff. To

this, some add a mantelette, that the former may hang loose. The difference between this dress and that worn at Quito, though consisting of the same pieces, is, that at Lima it is much shorter, the petticoat, which is usually tied below the waist, not reaching lower than the calf of the leg, from whence, nearly to the ankle, hangs a border of very fine lace, sewed to the bottom of the under petticoat; through which the ends of their garters are discovered, embroidered with gold or silver, and sometimes set with pearls; but the latter is not common. The upper petticoat, which is of velvet, or some rich stuff, is fringed all round, and not less crowded with ornaments than those described in the first volume of this work. But be the ornaments what they will, whether of fringe, lace, or ribands, they are always exquisitely fine. The shift sleeves, which are a yard and a half in length, and two yards in width, when worn for ornament, are covered with rolls of lace, variegated in such a manner as to render the whole truly elegant. Over the shift is worn the jacket, the sleeves of which are excessively large, of a circular figure, and consist of rows of lace, or slips of cambric or lawn, with lace disposed betwixt each, as are also the shift sleeves, even of those who do not affect extraordinary ornament. The body of the jacket is tied on the shoulders with ribands fastened to the back of their stays; and the round sleeves of it being tucked up to the shoulders, are so disposed together with those of the shift, as to form what may be termed four wings. If the jacket be not buttoned or clasped before, it is agreeably fastened on the shoulders; and indeed the whole dress makes a most elegant figure. They who use a close vest, fasten it with clasps, but wear over it the loose jacket already described. In the summer they have a kind of veil, the stuff and fashion of which is like that of the shift and body of the vest, of the finest cambric or lawn, richly laced; but in winter the veil worn in their houses is of bays; when they go abroad full dressed, it is adorned like the sleeves. They also use brown bays, finely laced and fringed, and bordered with slips of black velvet. Over the petticoat is an apron of the same stuff as the sleeves of the jacket, hanging down to the bottom of it. From hence some idea may be formed of the expence of a dress, where the much greater part of the stuff is merely for ornament; nor will it appear strange, that the marriage shift should cost a thousand crowns, and sometimes more.

One particular on which the women here extremely value themselves, is the size of their feet, a small foot being esteemed one of the chief beauties; and this is the principal fault they find with the Spanish ladies, who have much larger feet than those of Lima. From their infancy they are accustomed to wear strait shoes, that their feet may not grow beyond the size which they esteem beautiful; some of them do not exceed five inches and a half, or six inches in length, and in women of a small stature they are still less. Their shoes have little or no sole, one piece of cordovan serving both for that and the upper leather, and of an equal breadth and roundness at the toe and heel, so as to form a sort of long figure of 8: but the foot not complying with the figure, brings it to a greater regularity. These shoes are always fastened with diamond buckles, or something very brilliant in proportion to the ability of the wearer, being worn less for use than ornament; for the shoes are made in such a manner, that they never loosen of themselves, nor do the buckles hinder their being taken off. It is unusual to set these buckles with pearls, a particular to be accounted for only from their being so lavish of them in the other ornaments of dress, as to consider them of too little value. The shoemakers, who are no strangers to the foible of the sex, take great care to make them in a manner very little calculated for service. The usual price is three half-crowns a pair; those embroidered with gold or silver cost from eight to ten crowns. The latter

latter however, are but little worn, the encumbrance of embroidery being suited rather to enlarge than diminish the appearance of a small foot. \*

They are fond of white silk stockings, made extremely thin, that the leg may appear the more shapely; the greatest part of which is exposed to view. These trifles often afford very sprightly sallies of wit in their animadversions on the dress of others.

Hitherto we have considered only the more common dress of these ladies; the reader will conceive a still higher idea of their magnificence, when he is informed of the ornaments with which they are decorated in their visits, and upon public occasions. We shall begin with their manner of dressing the hair, which being naturally black, and capable of reaching below their waists, they dispose in such a manner as to appear perfectly graceful. They tie it up behind in six braided locks, through which a golden bodkin, a little bent, is inserted, and having a cluster of diamonds at each end. On this the locks are suspended so as to touch the shoulder. On the front and upper part of the head they wear diamond aigrets, and the hair is formed into little curls, hanging from the forehead to the middle of the ear, with a large black patch of velvet on each temple. Their ear-rings are of brilliants, intermixed with tufts of black silk, covered with pearls, resembling those already described. These are so common an ornament, that besides their necklaces, they also wear about their neck rosaries, the beads of which are of pearls, either separate or set in clusters to the size of a large filbert; and those which form the crosses are still larger.

Besides diamond rings, necklaces, girdles, and bracelets, all very curious both with regard to water and size, many ladies wear other jewels set in gold, or for singularity's sake, in tombago. Lastly, from their girdle before is suspended a large round jewel enriched with diamonds: much more superb than their bracelets, or other ornaments. A lady covered with the most expensive lace instead of linen, and glittering from head to foot with jewels, is supposed to be dressed at the expence of not less than thirty or forty thousand crowns; a splendour still the more astonishing, as it is so very common.

A fondness for expence in these people, does not confine itself to rich apparel; it appears no less in the strange neglect, and the small value, they seem to set upon them, by wearing them in a manner the most careless, and by that means bringing upon themselves fresh expences in repairing the old or purchasing new jewels; especially pearls, on account of their fragility.

The most common of the two kinds of dresses worn when they go abroad, is the veil and long petticoat; the other is a round petticoat and mantelette: the former for church, the latter for taking the air, and diversions; but both in the prevailing taste for expence, being richly embroidered with silver or gold.

The long petticoat is particularly worn on Holy Thursday; as on that day they visit the churches, attended by two or three female Negro or Mulatto slaves, dressed in an uniform like pages. †

With regard to the persons of the women of Lima, they are in general, of a middling stature, handsome, genteel, and of very fair complexions without the help of art; the

\* All those who can afford them wear shoes made in the European manner, but with heels of wrought silver; the tinkling of which, added to the smallness of their feet, has really, at least to the weather-beaten sealer, something captivating. A.

† The lower class of women, whose whole stock of apparel seldom consists of more than two camisas (shifts) and a saya (petticoat), wear bracelets, rosaries, and small golden images about their necks and arms, to the intrinsic value of fifty or sixty crowns, and to them of much greater value, having cost near that sum in benediction from the priests, without which the images, &c. would be esteemed pollutions. A.

beauty of their hair has been already mentioned, but they have usually an enchanting lustre and dignity in their eyes.

These personal charms are heightened by those of the mind; clear and comprehensive intellects: an easiness of behaviour, so well tempered, that whilst it invites love, it commands respect: the charms of their conversation are beyond expression; their ideas just, their expressions pure, their manner inimitably graceful. These are the allurements by which great numbers of Europeans, forgetting the fair prospects they have at home, are induced to marry and settle here.

One material objection against them is, that being too well acquainted with their own excellences, they are tainted with a haughtiness, which will scarce stoop to the will of their husbands. Yet by their address and insinuating compliance, they so far gain the ascendancy over them, as to be left to their own discretion. There may, indeed, a few exceptions be found; but these possibly are rather owing to a want of capacity. Another objection may be made to their being more expensive than other ladies; but this arises from the exorbitant price of stuffs, laces, and other commodities, in this country. And with regard to the independence they affect, it is no more than a custom long established in the country. To which may be added, that being natives, and their husbands generally foreigners, it is very natural, that the latter should not enjoy all that authority, founded on laws superior to custom; and hence this error remains uncorrected. The husbands conform to the manners of the country, as their character is not in the least affected thereby; and this complaisance is rewarded by the discretion and affection of their ladies, which are not to be paralleled in any other part of the world.

They are so excessively fond of perfumes, that they always carry ambergrise about them; putting it behind their ears, and other parts of the body; and also in several parts of their clothes. Not content with the natural fragrancy of flowers, which are also a favourite ornament, they scatter perfumes even on their nosegays. The most beautiful flowers they place in their hair, and others, which are most valuable for their odour, they stick in their sleeves; the effluvia therefore issuing from these ladies, the reader will conceive to reach to no inconsiderable distance. The flower most in use is the chirimoya, of mean appearance, but of exquisite scent.

To this passion for flowers it is owing, that the grand square, every morning, on account of the vast quantity of beautiful vegetables brought thither, has the appearance of a spacious garden. The smell and the sight are there sufficiently gratified. The ladies resort thither in their calashes, and if their fancy happens to be pleased, they make but little difficulty with regard to the price. A stranger has the pleasure of seeing assembled here not only the ladies, but every body of rank whose health and avocations will admit of it.

The lower classes of women, even to the very Negroes, affect, according to their abilities, to imitate their betters, not only in the fashion of their dress, but also in the richness of it. None here are seen without shoes as at Quito, but they are made of so small a size, in order to diminish the natural bigness of the feet, that they must give infinite uneasiness in the wearing. A desire of being distinguished by an elegant dress is universal. Their linen is always starched to a great degree, in order to display the costly patterns of their laces. After this universal passion, their next care, and indeed a much more commendable one, is cleanliness; of which the uncommon neatness of their houses are sufficient instances.

They are naturally gay, sprightly, and jocular, without levity; remarkably fond of music; so that even among the lowest you are entertained with pleasing and agreeable songs:

songs; for the gratification of this passion, they have in general good voices, and some of them are heard with admiration. They are very fond of balls, where they distinguish themselves equally by the gracefulness and agility of their motions. In fine, the reigning passions of the fair at Lima, are shew, mirth, and festivity.

The natural vivacity and penetration of the inhabitants of Lima, both men and women, are greatly improved by conversing with persons of learning resorting thither from Spain. The custom of forming small assemblies, has also a great tendency to improve their minds, and give them a ready and happy manner of expression, from an emulation to distinguish themselves in these engaging accomplishments.

Though the natives have too great a share of pride, they are not wanting in docility when proper methods are taken. They instantly shew their reluctance to obey a command given with haughtiness; but, when delivered with mildness and affability, equally obsequious and submissive. They are charmed with gentleness of manners; and a few instances of kindness make a lasting impression on their minds. They are remarkably brave, and of such unblemished honour, as never to dissemble an affront received, or give one to others; so that they live together in a cheerful and social manner. The Mulattoes being less civilized, and having but slender notions of the turpitude of vice, and the importance of virtue, are haughty, turbulent, and quarrelsome. Yet the mischievous consequences of these vices are less common, than might naturally be expected in such a populous city.

The manners and dispositions of the nobility, correspond with their rank and fortune. Courtesy shines in all their actions, and their complaisance to strangers is without limits. The reception they give them, is equally free from flattery and a haughty reserve; so that all the Europeans, whether they visit them out of curiosity or from commercial motives, are charmed with their probity, politeness, candour, and magnificence.

CHAP. VI. — *Of the Climate of the City of Lima, and the whole Country of Valles: and the Divisions of the Seasons.*

THE temperature of the air of Lima, and its alterations, would be greatly injured by an inference drawn from what is felt in the same degree of north latitude; as Lima would from hence be concluded another Carthagera; the latitude of both cities, one in the northern and the other in the southern hemisphere, differing but very little; whereas in fact it is quite the reverse. For as that of Carthagera is hot to a degree of inconvenience, this of Lima is perfectly agreeable. And though the difference of the four seasons are sensible, all of them are moderate, and none of them troublesome.

Spring begins towards the close of the year, that is, towards the end of November, or beginning of December. But this is to be understood only of the heavens, as then the vapours which filled the atmosphere during the winter subside, the sun to the great joy of the inhabitants again appears, and the country now begins to revive, which during the absence of his rays had continued in a state of languor. This is succeeded by summer, which, though hot from the perpendicular direction of the sun's rays, is far from being insupportable; the heat, which would indeed otherwise be excessive, being moderated by the south winds, which at this season always blow, though with no great force. At the latter end of June, or the beginning of July, the winter begins, and continues till November or December, the autumn intervening between

between both. About this time the south winds begin to blow stronger, and bring the cold with them; not indeed equal to that in countries where snow and ice are known, but so keen that the light dresses are laid by, and cloth or other warm stuffs worn.

There are two causes of the cold felt in this country, and nature, wise in all her ways, provides others which produce the same effect at Quito. The first cause of cold at Lima is the winds, which passing over the frozen climes of the south pole, bring hither part of the frigorific particles from those gelid regions; but as a sufficient quantity of these could not be brought over such an immense space as lies between the frozen and torrid zones of its hemisphere, nature has provided another expedient; during the winter, the earth is covered with so thick a fog, as totally to intercept the rays of the sun; and the winds, by being propagated under the shelter of this fog, retain the particles they contracted in the frozen zone. Nor is this fog confined to the country of Lima: it extends, with the same density, northward through all the country of Valles, at the same time filling the atmosphere of the sea; as will be shewn hereafter.

This fog seldom fails daily to cover the earth, with a density that obscures objects at any distance. About ten or eleven it begins to rise, but without being totally dispersed, though it is then no impediment to the sight, intercepting only the rays of the sun by day, and by night those of the stars, the sky being continually covered whatever height the vapours float in the atmosphere. Sometimes, indeed, they are so far dispersed as to admit of seeing the disk of the sun, but still precluding the heat of his rays.

It is not unworthy observation on this head, that at the distance of only two or three leagues, the vapours are much more dissipated from noon to evening than in the city, the sun fully appearing so as to moderate the coldness of the air. Also at Callao, which is only two leagues and a half from Lima, the winter is much more mild, and the air clearer, during that season; for the days at Lima are very melancholy and disagreeable, not only on account of the darkness, but frequently during the whole day the vapours continue in the same degree of density and position, without breaking, or being elevated above the earth.

It is in this season only that the vapours dissolve into a very small mist or dew, which they call *garua*, and thus every where equally moistens the earth; by which means all those hills, which during the other part of the year offer nothing to the sight but rocks and wastes, are clothed with verdure, and enamelled with flowers of the most beautiful colours, to the great joy of the inhabitants, who, as soon as the severity of winter is abated, resort into the country, which exhibits so elegant an appearance.\* These *garuas* or dews never fall in quantities sufficient to damage the roads, or incommode the traveller; a very thin stuff will not soon be wet through; but the continuance of the mists during the whole winter, without being exhaled by the sun, renders the most arid and barren parts fertile. For the same reason they turn the disagreeable dust in the streets of Lima into a mud, which is rather more offensive.

\* I cannot understand what the Author means here by "severity of the winter," unless he would so denominate the most pleasant time of the year; for during this time, while the sun's rays are cut off by the mists, there is a continual spring: and plants and herbs recruit their strength to endure the perpendicular rays of the sun, which break through the mists about the middle of November. A.

The winds which prevail during the winter, are nearly, though not exactly, south; sometimes shifting a little to the south-east between which and the south they always blow.\* This we observed to have constantly happened during the two winters we spent in this country, one at Lima, and the other at Callao; the former in the year 1742, and the latter in 1743. The first was one of the most severe that had been felt, and the cold general in all that part of America to Cape Horn. In Chili, Baldivia, and Chiloe, the cold was proportionable to the latitudes; and at Lima it occasioned constipations and fluxions, which swept away such numbers that it seemed to resemble a pestilence. And though disorders of this kind are very common in the winter season, they are rarely attended with the danger which then accompanied them.

The extraordinary singularity observed in the kingdom of Peru, namely, that it never rains; or to speak more properly, that the clouds do not convert themselves into formal showers, has induced many naturalists to enquire into the cause: but in their solutions of this difficulty they have varied, and invented several hypotheses to account for so strange an effect. Some attribute it to the constancy of the south winds, concluding, that as they are incessant, they propel the vapours rising from the sea, to the same point; and thus by never resting in any part, as no opposite winds blow during the whole year to check their course, there is not time sufficient for the mists to collect themselves, and, by an increase of gravity, to descend in the manner of rain. Others have attributed it to the natural cold brought by the south winds, which continue the atmosphere in a certain degree of heat during the whole year, and thus increase the magnitude of the particles of the air, which with the nitrous effluvia acquired in its passage over the surface of the sea, together with those of the several minerals with which this country abounds, lessen its velocity, and consequently its power of uniting the vapours so as to form drops whose gravity is greater than that of the air. To this we may add, that the rays of the sun not exerting a force sufficient for uniting and putting them in motion, the heat being greatly lessened by the coldness of the wind, the fog cannot be converted into drops of rain. For while the weight of the cloud does not exceed that of the air, by which it is supported, it cannot precipitate.

I shall not censure this, or any other hypothesis, formed for explaining the above phenomenon, not being certain that I have myself discovered the true cause; I shall however give the reader my thoughts, and leave them to the discussion of philosophers. In order to this I shall lay down some preliminary principles, which may serve as a foundation to those who shall apply themselves to discover the true cause of this phenomenon, with some instructions for judging of the several hypotheses that have been formed on this extraordinary subject.

1. It is to be supposed, that throughout the whole country of Valles, no other winds are known during the whole year, than the southerly, that is, between the south and south-east, and this not only on the land, but also to a certain distance at sea; it evidently appearing that the winds are limited between the south and south-east. It is therefore very strange that some writers should assert that they are confined between the south and south-west, as this is absolutely false. There are indeed intervals when these winds are scarcely felt, and an air, though extremely small, seems to come from the north, and which forms the fog. 2. In winter the south wind blows harder than in summer, especially near the surface of the earth. 3. Though no formal rain is ever

\* The wind here blows south by east to south by west, but generally about south-south-east from June to December. A.

known in the country of Valles, there are wetting fogs called garuas, which continue the greatest part of the winter; but are never seen in summer. 4. When the garuas fall, it is observed that the clouds, mist, or vapours, which rise from the earth, remain almost contiguous to its surface; and the same fog which is converted into a garua, begins by a moist air, till the humidity gradually increasing to its greatest condensation, the small drops which fall are easily distinguishable. This is so natural, that it is known in all other countries subject to any degree of cold, and, consequently, not to be wondered at in this.

I give the name of cloud, mist, or vapours, to that which produces the garua or small rain; for though there may be some accidental distinctions between these three kinds, they are not such as cause any material difference: the fog being only the vapour condensed more than when it first rose; and the cloud only a fog elevated to a greater height, and still more condensed than the former: so that in reality they may all be considered as one and the same thing, differing only in degrees of density, and therefore it is of little importance whatever name it is called by.

5. The rays of the sun during the summer, cause a prodigious heat all over Valles, and the more so as they are received upon a sandy soil, whence they are strongly reverberated, the winds being at the same time very weak. Hence it appears, that the second hypothesis above related, is not founded on truth; for if the force or agitation of the south winds be the cause which hinders the vapours from rising to the height necessary for forming rain, this cause generally ceasing in the summer, the rain might be expected to descend; whereas quite the reverse happens, the garuas being then much less common. 6. Particular times have been known when the nature of the country departing as it were from its usual course, formal showers have fallen, as we have already mentioned (chap. i.) in describing the towns of Chocope, Truxillo, Tumbes, and other places; but with this singularity, that the winds continued at south, and blew much stronger during the time of the rain, than is usual either in winter or summer.

These six preliminary principles are so common to this climate, that they may be applied to all the places mentioned in this chapter; and are the only guides that must be followed in determining the true cause why it does not rain in Peru as in Europe, or, more properly, as is common in the torrid zone.

It will readily be granted, that the wind blows more strongly in some regions of the atmosphere than in others, experience itself having sufficiently proved this to be fact; as on high mountains, along whose summits a strong wind is felt, when at the foot hardly any can be perceived; at least, we found this to be the case in all the mountains of the Cordilleras, one of the greatest inconveniences to us being the strength of the wind. And, indeed, this is every where so common, that any person may be convinced of it by only ascending a high tower, then he will soon perceive the difference between the strength of the wind at the top and at the bottom. I am not ignorant that some have endeavoured to prove, that on the land this proceeds from the inequalities of its surface, which hinder the winds from blowing in the plains or low countries with that force which is felt on eminences; but the same thing happening at sea, as experience has abundantly proved, it appears beyond dispute, that the surface is not the place where the wind exerts its greatest force. This being granted, it may be confidently asserted, that the south winds blow with the greatest force in a portion of the atmosphere at some distance from the earth; but not generally higher than that in which the rain is formed; or where the aqueous particles unite so as to form drops of any sensible gravity or magnitude. In this country, therefore, the clouds or vapours elevated

above this space, that is, those which have the greatest degree of altitude, move with a much less velocity than the winds under them. Nor is it uncommon in other climates, besides that of Valles, for these clouds to move in a direction contrary to the more dense ones below it. Thus it appears to me, that without the danger of advancing irregular suppositions, the space of the atmosphere, where the winds generally blow with the greatest force, is that where the large drops, commonly called rain, are formed.

Now, in order to explain the singularity of this remarkable phenomenon, I conceive that, in summer, when the atmosphere is most rarefied, the sun, by the influence of his rays, proportionally elevates the vapours of the earth, and gives them a greater degree of rarefaction; for his beams being then in a more perpendicular direction to the earth, they have the power of raising them to a greater height. These vapours, on their touching the lower part of the atmosphere, where the winds blow with the greatest force, are carried away before they can rise to the height required for uniting into drops, and, consequently, no rain can be formed. For, as the vapours issue from the earth, they are wafted along the lower region of the atmosphere, without any stop; and the winds blowing always from the south, and the vapours being rarefied proportionally to the heat of the sun, its too great activity hinders them from uniting. Hence, in summer, the atmosphere is clear, or free from vapours.

In winter, the rays of the sun being less perpendicular to the surface of the earth, the atmosphere becomes considerably more condensed, but the winds from the south much more so, as being loaded with the frigorific particles from the frozen zone, which particles it communicates to the vapours as they issue from the earth, and, consequently, renders them much more condensed than in summer: hence they are hindered from rising with the same celerity as before.

To these must be added two other reasons; one, that the rays of the sun for want of sufficient activity dissipates the vapours less, so that they rise much slower. The other, that the region where the wind has its greatest velocity being, in this season, near the earth, will not admit of their rising to any height; and thus they continue contiguous to its surface, where they still follow the same direction, and form the moist fog then felt: and having less space to dilate themselves than at a greater height, they, consequently, sooner come into contact, and when sufficiently condensed, descend in a garua.

In the middle of the day the garua ceases, being then dispersed, which proceeds from the sun's rarefying the atmosphere, whence the vapours ascend and remain suspended at a greater height, and thus they are rendered more tenuous; and being raised to a region where they have more room to dilate, they are so far dispersed as to become imperceptible.

After all, it must be owned, that both in summer and winter, some vapours must surmount the difficulty of the wind in that region where its velocity is greatest, and, getting above it, ascend to a greater height; though not indeed in the very part where they first reached this current of wind, but at some distance from it: so that these vapours are to be considered, on one hand, as yielding to the current of the air, and, on the other, as ascending in proportion to the rarefaction they have received from the rays of the sun. Hence it follows, that these vapours cannot be those which are most condensed, as the difficulty of rising is always proportional to the degree of condensation; and, at the same time, their magnitude would render them more susceptible of the impulse of the wind. So that these consequently being the most subtile or tenuous, on having passed that region, the celerity with which they were before carried upwards is decreased.

decreased, and great numbers of them being united, form that lofty mist which is seen after the cloud is totally dissipated. This mist cannot be converted into rain; for, having passed above the region proper for its formation, all the parts become congealed, and their weight can never be increased sufficiently to overcome the resistance of the air which supports them; for the quantity of those which have overcome this obstacle being inconsiderable, they cannot be united with a sufficient quantity of others to withstand the continual dissipation occasioned by the action of the rays of the sun. Nor can they descend in either snow or hail, as might be expected from their present state. Besides following always, though with less velocity, the current of the wind, any such concretion of them as to form a thick cloud is prevented: for, as we have already observed, these mists are so tenuous, as to afford in the day-time a confused view of the disk of the sun, and of the stars in the night.

In order to render the premises agreeable to observation, one difficulty still remains, namely, that these lofty mists are seen only in winter, and not in summer. But this, in my opinion, must naturally be the consequence; for, besides the general reason, that the stronger influence of the rays of the sun disperses them, it proceeds from the increase of the force of the winds during the winter, in a region nearer the earth than in summer; and the nearer the lower part of this region is to the surface of the earth, the nearer also will be the upper part; while, on the contrary, in the summer, the higher the lower part of this current of air is, the higher will be also its upper part; and, as we must suppose, with all philosophers, that the vapours of the earth can ascend only to that height, where the gravity of the particles of the vapours are equal to those of the air; and the rapidity of the wind extending in summer to these limits, they are consequently involved in its violent impulse; and thence there cannot be such a multitude of conglomerations as to form the mist so common in winter; for the winds in this season strongly blowing through a region nearer the earth, the agitation in the upper parts is proportionally less. And this current of air being below the region to which vapours can ascend, the space intercepted between the upper part of this current and the part to which vapours rise, becomes filled with them. All this seems natural, and is confirmed by experience; for, in winter, the south winds are stronger on the land than in summer. But as a further proof may be thought necessary, I have added the following:

It has been said that, in the town of Chocope, two very hard and continual rains have happened; and that the same thing is more frequently seen at Tumbes, and other towns of those parts, after some years of continual drought, which seems strange; for that being in the country of Valles, and not at all different from Lima, no rain would naturally be expected there. Two causes for this, however, have occurred to me, one of them flowing from the other. I shall begin with the first as productive of the second.

From what has been said, it may be inferred, that in a country or climate, where one and the same wind perpetually prevails, there can be no formal rain; and, in order to form it, either the wind must entirely cease, or an opposite wind must arise, which, by checking the course of the vapours, brings them into contact with those lately exhaled from the earth, and causes them to condense in proportion as they rise by the attraction of the sun, till being rendered heavier than the air by which they were supported, they descend in drops of water.

On reconsidering the circumstances of what happened at Chocope, it will appear, that during the whole day, the sky was clear, and that it was not before five in the evening that the rain began, and with it the violence of the wind. It should also be observed, that

that in the time of the brisas in those climates where they are periodical, they blow strongest between the setting and rising of the sun; and this happening in September and the following months, forms the summer in Valles, when they enjoy clear days and a lucid atmosphere. This was the case at Chocope at the time of that rain; for, though the inhabitants did not precisely mention the season in which that event happened, yet the several particulars related, especially that the south winds then prevailed with an uncommon force, sufficiently indicate that it was in the summer; as this would not have been at all remarkable in winter, when they are very variable and sometimes stormy. It may therefore be safely concluded, that these events happened during the summer; and, by way of corollary, that the brisas being stronger than usual, and advancing so far on the continent as even to reach the south winds, they were overpowered by them, and shifted their point; but the succeeding south winds rendering it impossible to return in the same place, they left their former region, and blew in a current nearer the earth. By which means, the vapours which had been exhaling during the whole day, after being carried by the strongest current of wind to a certain distance, ascended to the region where the brisas prevailed; and being there repelled by them, had time to condense; for being within that region where the rain is formed, or where many imperceptible drops compose one of a large magnitude and gravity, and being more minutely divided by the influence of the sun, they continued to ascend, till that power ceasing by the setting of the sun, they again condensed, and their weight becoming too heavy to be supported in the air, they descended in rain, which was the more violent, as the vapours were strongly repulsed by the brisas. At the dawn, these winds, as usual, began to decrease, and the rain gradually lessened. The south winds blew all day as before; and there being then in the atmosphere no other winds to oppose them, they carried with them the vapours as they exhaled, and the atmosphere continued clear and serene.

This happened at Chocope, situated at a much greater distance from the parts to which the brisas extend than Tumbez, Piura, Sechura, and other towns where this is more frequent, as being nearer the equinoctial: notwithstanding, no brisas or north winds are felt in that part of the atmosphere near the surface of the earth. So that it is probable, or rather indeed evident from experience, that the north winds at the time they prevail, more easily reach to the countries nearest the equinoctial, than to those at a greater distance, though not so as to be felt in the atmosphere near the earth, but in a more elevated region. Consequently, it is natural for rains to be more frequent in the former than in the latter, where these winds very seldom reach, whether in that part of the atmosphere contiguous to the earth, or another, which being more distant from it they blow there more violently.

I at first declared against any positive assertion, that the opinion I have now laid before the reader is founded on such undoubted physical principles, that no other can be advanced more conformable to phenomena; it being difficult immediately to fix on causes which agreeing with all circumstances, leaves the mind entirely satisfied: and as all within the reach of human perspicuity cannot be accommodated to every particular, as entire conviction requires, let it suffice that I have here delivered my thoughts; leaving the naturalists at full liberty to investigate the true cause, and when discovered, to reject my hypothesis. \*

\* A more probable conjecture is, that the vapours which arise in the great South Sea, and are brought into this neighbourhood by the south wind (where they would naturally condense into clouds and fall in showers), are attracted by the Cordilleras, whose tops are generally enveloped in clouds frightful to behold, which spend themselves in tremendous tempests, even shaking the foundations of those lofty mountains. A.

As rain is seldom or never seen at Lima, so that place is also equally free from tempests; that so those who have neither visited the mountains nor travelled into other parts, as Guayaquil or Chili, are absolute strangers to thunder and lightning; nothing of that kind being known here. Accordingly, the inhabitants are extremely terrified when they first hear the former or see the latter. But it is very remarkable, that what is here entirely unknown, should be so common at thirty leagues distant, or even less, to the east of Lima; it being no farther to the mountains, where violent rains and tempests are as frequent as at Quito. The winds, though settled in the above-mentioned points, are subject to variations, but almost imperceptible, as we shall explain. They are also very gentle, and even in the severest winters, never known to do any damage by their violence; so that if this country was free from other inconveniences and evils, its inhabitants could have nothing to desire, in order to render their lives truly agreeable. But with these signal advantages, nature has blended inconveniences, which greatly diminish their value, and reduce this country even below those on which nature has not bestowed such great riches and fertility.

It has been observed, that the winds generally prevailing in Valles, throughout the whole year, comes from the south; but this admits of some exceptions, which, without any essential alteration, implies that sometimes the winds come from the north, but so very faint, as scarcely to move the vanes of the ships, and consist only of a very weak agitation of the air, just sufficient to indicate that the wind is changed from the south. This change is regularly in winter, and with it the fog immediately begins, which in some measure seems to coincide with what has been offered with regard to the reason why showers are unknown at Lima. This breath of wind is so particular, that from the very instant it begins, and before the wind is condensed, the inhabitants are unhappily sensible of it by violent head-aches, so as easily to know what sort of weather is coming on before they stir out of their chambers.

#### CHAP. VII. — *Inconveniencies, Distempers, and Evils, to which the City of Lima is subject; particularly Earthquakes.*

ONE of the inconveniences of Lima, during the summer, is that of being tormented with fleas and bugs, from which the utmost care is not sufficient to free the inhabitants. Their prodigious increase is partly owing to the dust of that dung, with which the streets are continually covered; and partly to the flatness of the roofs, where the same dust, wafted thither by the winds, produce these troublesome insects, which are continually dropping through the crevices of the boards into the apartments, and by that means render it impossible for the inhabitants, notwithstanding all their pains, to keep their houses free from them. The moschitos are very troublesome, but much less so than the former.

The next, and indeed a most dreadful circumstance, is that of earthquakes, to which this country is so subject, that the inhabitants are under continual apprehensions of being, from their suddenness and violence, buried in the ruins of their own houses. Several deplorable instances of this kind have happened in this unfortunate city; and lately proved the total destruction of all its buildings. These terrible concussions of nature are not regular, either with regard to their continuance or violence. But the interval between them is never of a length sufficient to obliterate the remembrance of them. In the year 1742, I had the curiosity to observe the distance of time between those which happened successively for a certain space. 1. On the 9th of May, at three  
-quarters

quarters after nine in the morning. 2. The 19th of the same month, at midnight, 3. The 27th, at thirty-five minutes after three in the evening. 4. The 12th of June, at three quarters past five in the morning. 5. The 14th of October, at nine at night; all which I carefully noted. And it must be observed, that these concussions were the most considerable, and lasted near a minute; particularly that of the 27th of May, which continued near two minutes, beginning with one violent shock, and gradually terminating in tremulous motions. Between these above noted were several others, which I omitted, as being neither so lasting nor violent.

These earthquakes, though so sudden, have their presages, one of the principal of which is, a rumbling noise in the bowels of the earth, about a minute before the shocks are felt; and this noise does not continue in the place where it was first produced, but seems to pervade all the adjacent subterraneous parts. This is followed by dismal howlings of the dogs, which seem to have the first perception of the approaching danger. The beasts of burden passing the streets, stop, and, by a natural instinct, spread open their legs, the better to secure themselves from falling. On these portents the terrified inhabitants fly from their houses into the streets with such precipitation, that if it happens in the night, they appear quite naked; fear and the urgency of the danger, banishing at once all sense of decency. Thus the streets exhibit such odd and singular figures, that might even afford matter for diversion, were it possible in so terrible a moment. The sudden concourse is accompanied with the cries of children waked out of their sleep, blended with the lamentations of the women, whose agonizing prayers to the saints increase the common fear and confusion: the men also are too much affected to refrain from giving vent to their terror; so that the whole city exhibits one dreadful scene of consternation and horror. Nor does this end with the shock, none venturing to return to their houses through fear of a repetition, which frequently demolishes those buildings which had been weakened by the first.

My attention to set down the exact time of the above-mentioned shocks, taught me, that they happen indifferently at half-ebb or half-flood, but never at high or low water: which sufficiently confutes what some have confidently advanced, namely, that earthquakes always happen during the six hours of ebb, but never during the flood: because this favours the hypothesis they have advanced to account for their origin and causes; an hypothesis which, in my opinion, does not sufficiently correspond with observations, as to recommend itself to the assent of intelligent persons.

The nature of this country is so adapted to earthquakes, that all ages have seen their terrible devastations: and that nothing may be wanting to satisfy the curiosity of the reader, I shall introduce the account of that which laid this large and splendid city totally in ruins, with a short narrative of the most remarkable that have been felt in latter ages.

1. The first concussion since the establishment of the Spaniards in these parts, happened in 1582, a few years after the foundation of Lima; but the damage was much less than in some of the succeeding, being chiefly confined to the city of Arequipa, which being situated near that spot, where the motion of the earth was most violent, the greatest part of it was destroyed.

2. On the 9th of July 1586, Lima was visited with another earthquake, and so violent, that even to this time it is solemnly commemorated on the day of the visitation of Elizabeth.

3. In 1609, another like the former happened.

4. On the 27th of November 1630, such prodigious damage was done in the city by an earthquake, and the entire ruin of it apprehended, that in acknowledgment of its

its deliverance, a festival, called Nuestra Senora del Milagro, is annually celebrated on that day.

5. In the year 1655, on the 3d of November, the most stately edifices, and a great number of houses, were thrown down by an earthquake; the inhabitants fled into the country, and remained there several days, to avoid the danger they were threatened with in the city.

6. On the 17th of June 1678, another earthquake happened, by which several houses were destroyed, and the churches considerably damaged.

7. One of the most dreadful of which we have any account, was that of the 20th of October 1687. It began at four in the morning, with the destruction of several public edifices and houses, whereby great numbers of persons perished; but this was little more than a preface of what was to follow, and preserved the greatest part of the inhabitants from being buried under the ruins of the city. The shock was repeated at six in the morning, with such impetuous concussions, that whatever had withstood the first, was now laid in ruins; and the inhabitants thought themselves very fortunate in being only spectators of the general devastation from the streets and squares, to which they had directed their flight on the first warning. During this second concussion the sea retired considerably from its bounds, and returning in mountainous waves, totally overwhelmed Callao, and the neighbouring parts, together with the miserable inhabitants.

8. On the 29th of September 1697, this place was visited by another terrible earthquake.

9. On the 14th of July 1699, a great number of houses were destroyed by another concussion.

10. The 6th of February 1716, a like disaster.

11. On the 8th of January 1725, another.

12. On the 2d of December 1732, was another earthquake at one in the morning.

13, 14, 15. In the years 1690, 1734, and 1745, three others happened, but neither violent nor lasting. But all these were less terrible than the last, as will appear from the following account of it.

16. On the 28th of October, 1746, at half an hour after ten at night, five hours and three quarters before the full of the moon, the concussions began with such violence, that in little more than three minutes, the greatest part, if not all the buildings, great and small, in the whole city, were destroyed, burying under their ruins those inhabitants who had not made sufficient haste into the streets and squares; the only places of safety in these terrible convulsions of nature. At length the horrible effects of this short shock ceased: but the tranquillity was of short duration; concussions returning with such frequent repetitions, that the inhabitants, according to the account sent of it, computed two hundred in the first twenty-four hours: and to the 24th of February of the following year, 1747, when the narrative was dated, no less than four hundred and fifty shocks were observed, some of which, if less lasting, were equal to the first in violence.

The fort of Callao, at the very same hour, sunk into the like ruins; but what it suffered from the earthquake in its buildings, was inconsiderable, when compared with the terrible catastrophe which followed; for the sea, as is usual on such occasions, receding to a considerable distance, returned in mountainous waves foaming with the violence of the agitation, and suddenly turned Callao and the neighbouring country, into a sea. This was not, however, totally performed by the first swell of the waves; for

for the sea, retiring further, returned with still more impetuosity; the stupendous water covering both the walls and other buildings of the place; so that whatever had escaped the first, was now totally overwhelmed by those terrible mountains of waves, and nothing remained except a piece of the wall of the fort of Santa Cruz, as a memorial of this terrible devastation. There were then twenty-three ships and vessels, great and small, in the harbour, of which nineteen were absolutely sunk, and the other four, among which was a frigate called St. Firmin, carried by the force of the waves to a great distance up the country.

This terrible inundation extended to other ports on the coast, as Cavallos and Guanape; and the towns of Chancay, Guara, and the valleys Della Baranca, Sape, and Pativilca, underwent the same fate as the city of Lima. The number of persons who perished in the ruin of that city, before the 31st of the same month of October, according to the bodies found, amounted to thirteen hundred, besides the maimed and wounded, many of which lived only a short time in torture. At Callao, where the number of inhabitants amounted to about four thousand, two hundred only escaped; and twenty-two of these by means of the above-mentioned fragment of a wall.

According to an account sent to Lima after this accident, a volcano in Lucanas burst forth the same night and ejected such quantities of water, that the whole country was overflowed; and in the mountain near Patas, called Conversiones de Caxamarquilla, three other volcanoes burst, discharging frightful torrents of water; like that of Carguayasso, mentioned in the first part of this work.

Some days before this deplorable event, subterraneous noises were heard at Lima, sometimes resembling the bellowing of oxen, and at others the discharges of artillery. And even after the earthquake they were still heard during the silence of the night; a convincing proof that the inflammable matter was not totally exhausted, nor the cause of the shocks absolutely removed.

The frequent earthquakes to which South America, particularly Lima, and all the country of Valles, is subject, opens a field for enquiry not less ample than that just mentioned, concerning their cause. Many hypotheses have been formed by philosophers; but the generality, and with the greatest appearance of truth, agree in deducing them principally from the violent force of the air contained in sulphureous substances and other minerals, and also that confined in the pores of the earth; which being compressed by the incumbent load, make a very violent resistance. This is so far from implying any contradiction, that besides being countenanced by reason it is also confirmed by experience. But the apparent difficulty consists in explaining how the vents of the earth become again filled with air, after one concussion has happened; it being natural to think, that the quantity which struggled for vent, was thereby discharged, and that a long interval of time was necessary before another could be produced. Also why some countries are more subject to these terrible convulsions than others. Though this subject has been treated of by several authors, I think it my duty here to deliver the opinion which to me seems most probable.

Experience has sufficiently shewed, especially in this country, by the many volcanoes in the Cordilleras which pass through it, that the bursting of a new burning mountain causes a violent earthquake, so as totally to destroy all the towns within its reach; as happened at the opening of the volcano in the desert of Carguagoazo, as mentioned before. This tremulous motion, which we may properly call an earthquake, does not so usually happen in case of a second eruption, when an aperture has been before made; or at least, the motion it causes in the earth is comparatively but small. Whence it is inferred that an aperture being once made, however the substances in the bowels of

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the mountain may take fire, the convulsion of the earth is seldom or never felt a second time. The reason of which is, that the sudden reiteration of this accident greatly augments the volume of the air by rarefaction; and as it finds an easy passage without labouring in the bowels of the earth for a vent, no other concussion is produced than what must follow from the eruption of a great quantity of air through an aperture too narrow for its volume.

The formation of volcanoes is now well known; and that they owe their origin to sulphureous, nitrous, and other combustible substances in the bowels of the earth; for these being intermixed, and, as it were, turned into a kind of paste by the subterraneous waters, ferment to a certain degree, when they take fire; and by dilating the contiguous wind or air, and also that within their pores, so that its volume is prodigiously increased beyond what it was before the inflammation, it produces the same effect as gunpowder when fired in the narrow space of a mine, but with this difference, that powder on being fired immediately disappears, whereas the volcano being once ignited, continues so till all the oleaginous and sulphureous particles contained in the mountain are consumed.

Volcanoes are of two kinds, contracted and dilated. The former are found where a great quantity of inflammable matter is confined in small space; the latter where these combustibles are scattered at a considerable distance from one another. The first are chiefly contained in the bowels of mountains, which may be considered as the natural depositaries of these substances. The second may be considered as ramifications, which, though proceeding from the former, are, however, independent, extending themselves under the plains, and traversing them in several directions. This being admitted, it will appear, that in whatever country volcanoes, or depositaries of these substances, are very common, the plains will be more diversified with these ramifications; for we are not to imagine that it is only within the bosoms of mountains that substances of this nature exist, and that they are not diffused through all the parts of the adjacent region. Thus the country now under consideration, abounding in these igneous substances more than any other, must by the continual inflammation which necessarily follows their natural preparation for it, be more exposed to earthquakes.

Besides the suggestions of natural reason, that a country containing many volcanoes must also be every where veined with ramifications of correspondent substances, it is confirmed by experiment in Peru; where we find almost universally mines of nitre, sulphur, vitriol, salt, bitumen, and other inflammatory substances, which sufficiently confirm the truth of these inferences.

The soil both of Quito and Valles, particularly the latter, is hollow and spongy, so as to be fuller of cavities and pores than is usually seen in that of other countries, and consequently abounds with subterranean waters. Besides which, as I shall presently shew more at large, the waters, from the ice continually melting on the mountains, being filtrated through these pores during their descent, penetrate deep into the cavities of the earth, and during their subterranean course, moisten, and turn into a kind of paste, those sulphureous and nitrous substances; and though they are not here in such prodigious quantities as in volcanoes, yet they are sufficient, from their inflammatory quality, to rarefy the air contained in them, which, easily incorporating itself with that confined in the innumerable pores, cavities, or veins of the earth, compresses it by its greater expansion, and at the same time rarefies it by its heat; but the cavities being too narrow to admit of its proper dilatation, it struggles for a vent, and these efforts shake all the contiguous parts; till at last, where it finds the least resistance, it forces itself a passage, which sometimes closes again by the tremulous motion it occasions, and at others continues open, as may be seen in different parts of all these countries. When, on account  
of

of the resistance being equal, it finds a passage in several parts, the chasms or fissures are generally smaller, so that rarely any vestiges remain after the concussion. At other times, when the subterranean cavities are so large as to form subterranean caverns, they not only rend the earth, and at every shock leave it full of disruptions, but also cause it to sink into spacious hollows, as I particularly observed near the town of Guaranda, a place in the jurisdiction of Chimbo, in the province of Quito; where, in the year 1744, all the ground on the one side of the chasm sunk near a yard, the other side rising in the same proportion, though with some inequalities on both sides.

The loud subterranean noises preceding earthquakes, and which imitate thunder at a distance, seem to correspond with the above-mentioned cause and formation of earthquakes, as they can only proceed from the rarefaction of the air on the ignition of the explosive substances; which being impetuously propagated through all the caverns of the earth, propelling and at the same time dilating what is contained in them, till all the cavities being pervaded, and no vent found, the efforts for a further dilatation begin, and form the concussion with which it terminates.

It must be observed that at the time when the air, which had been confined within the earth, bursts through it, neither the light nor fire emitted from the chasms are seen. The reason is, that this light and fire exist only at the instant when the matter becomes inflamed, and the air spreading itself through all the veins, the light is extinguished by its dilatation, and becomes afterwards imperceptible. It is necessary to suppose that there must be some, though a short interval, between the inflammation and effect. Neither is the flame permanent, the substance ignited not containing those solid and oleaginous particulars which supply the volcanoes. Besides, they are not in sufficient quantity to ascend from the subterraneous caverns where they took fire, to the superficies of the earth. Farther, this not being the place where the matter was originally contained, but that where it has forced a passage for the quantity of air which its rarefaction augmented, the first light is lost among the meanders of its course, and therefore not to be seen when the wind violently forces a passage. There have, however, been instances when the light has been seen, though much oftener the smoke; but this is generally lost in the clouds of dust ascending at the time of the concussion.

The shocks are repeated at intervals, of a few days, sometimes of a few hours; proceeding from the matter being dispersed in different places, and each in a different degree of aptitude for inflammation, one part kindling after another successively, as each is more or less prepared. Hence proceed also the different violence of the shocks and the different intervals of time. For the quantity first inflamed increases by its heat other inflammable portions of matter; whence a part which would not have been ignited till after some days, by means of this adventitious fire, becomes so within a few hours. The second shocks are more violent, and cause a greater destruction than the first; for the fire of the portion of matter which is first inflamed, though in itself small, is sufficient to accelerate the fermentation of a much larger quantity, and consequently must be attended with more powerful effects.

Though the summer here, as we have already observed, is considerably warm, yet it is not productive of venomous creatures, which in this country are not known; and the same may be said of all Valles, though there are some parts, as Tumbez and Piura, where the heat is nearly equal to that at Guayaquil. This singularity can therefore proceed from no other cause than the natural drought of the climate.

The distempers most common at Lima are malignant, intermittent, and catarrhus fevers, pleurifies, and constipations; and these rage continually in the city. The small-

pox is also known here as at Quito, but is not annual, though, when it prevails, great numbers are swept away by it.

Convulsions are likewise very common, and no less fatal. This disorder, though unknown at Quito, is frequent all over Valles, but more dangerous in some parts than others. Something has already been said of this distemper in our account of Carthagena, but a more circumstantial description of it was reserved for this place.

This distemper is divided into two kinds, the common or partial, and the malignant or arched convulsions. They both come on when nature is struggling in the crisis of some acute distemper, but with this important difference, that those attacked with the former often recover, though the greater part die on the third or fourth day, the term of its duration; while those who have the misfortune of being attacked by the latter, sink under it in two or three days, it being very extraordinary to recover, and is therefore termed malignant.

The spasms or convulsions consist in a total inactivity of the muscles, and a constriction of the nerves of the whole body, beginning with those of the head; and these nerves being the channels which convey nourishment to the body, and this nourishment being precluded by the constriction of its conduits, they all successively suffer; the muscles, by having lost their activity, cannot assist in the motion of the nerves, and these being constricted, can no longer perform their office. Add to this a pungent humour dispersing itself through all the membranes of the body, and causing insupportable pains; so that the groaning patient labours under inconceivable tortures, which are still increased on his being moved, though with the greatest care and gentleness, from one side to the other. The throat is so contracted that nothing can be conveyed into the stomach. The jaws are also sometimes so closely locked, as impossible to be opened: thus the miserable patient lies without motion, and tortured in every part of his body, till nature quite exhausted, falls a victim to this deleterious distemper.

In the partial kind, the pulse is more affected than in the distemper which preceded it, and commonly abates the violence of a fever. But in the malignant kind it augments, the circulations being quickened; and whether it be the effect of the humour impetuously circulating through every part, or of the pain proceeding from the laceration of the membranes and abrading the muscles, the patient falls into a lethargy, but which does not remove the torturing sensation of these punctures, often so insupportable, that the miserable patient violently turns himself, and thus augments his agonies, as evidently appears from his piercing cries and groans.

The malignant and arched spasm, even in the first stage, is so violent as to cause a contraction of the nerves of the vertebræ from the brain downwards; and as the distemper increases, and the malignant humour acquires great activity, the nerves become more and more constricted, that the body of the patient, contrary to nature, inclines backward into an arch, and all the bones become dislocated. However terrible the pains resulting from hence may seem, they are still increased by those of the other species of convulsions, when the violence is such that the patient usually loses all sensation, and falls into a total inaction, not having breath to utter his complaints.

It is common at the beginning of this distemper to be totally convulsed, so that every part of the patient is affected, and, during the continuance, is, as it were, deprived of all sensation. Their return is more frequent and lasting as the distemper increases, till nature becomes entirely spent, when the lethargy fits succeed, and it is generally in one of these that the patient breathes his last.

The usual method of treating this distemper is by keeping both the bed and the chamber very close, even with a fire in it, that the pores being opened by the heat, the transpiration

spiration may be more copious. Laxative clysters are often injected to mollify the contractions of the intestines, and other internal parts. External applications are also applied to soften the parts, and open the ducts by which nature may evacuate the morbid humour: for the same intention and to check its progress, cordials and diuretic draughts are prescribed, and also the bath; but the latter only at the beginning of the first stage of the distemper; for if it is found to increase on the second day, bathing is no longer ordered.

The women of Lima are subject to a distemper, extremely painful, very contagious, and almost incurable; namely, a cancer in the matrix, which even at the beginning is attended with such excruciating pains, that their lives are one continued series of groans and complaints. During its progress, they discharge great quantities of morbid humours, become attenuated, fall into a state of languor, which gradually puts a period to their lives. It usually continues some years, with intervals of ease, during which, if the evacuations do not entirely cease, they are considerably intermitted; the pains seem over, and they are capable of dressing themselves and walking abroad: but the disease suddenly returns with double violence, and the patient becomes totally disabled. This distemper comes on so imperceptibly, as not to be indicated either by the countenance or pulse, till at its height; and such is the contagion of it, that it is contracted only by sitting in the same chair commonly used by an infected person, or wearing her cloaths; but it has not been known to affect the men, husbands usually living with their wives till the last stage of the distemper. Two causes are assigned for this malady; their excessive use of perfumes, which they always carry about them, and may doubtless contribute greatly to promote it: the other a continual riding in their calashes; but this does not seem to be of so much consequence as the former. For then the most distinguished of the fair sex in other countries, who ride in coaches, and even use the more violent exercise of the horse, would not be exempt from it.

Slow or hectic fevers also prevail greatly in these countries, and are likewise contagious, but more from a want of proper care in the furniture and apparel of the person infected, than any malignancy of the climate.

The venereal disease is equally common in this country as in those we have already mentioned; it is indeed general in all that part of America; and as little attention is given to it till arrived to a great height, the general custom in all those parts, a repetition here would be needless.

#### CHAP. VIII. — *Fertility of the Territories of Lima, and the Manner of cultivating the Soil.*

IT is natural to think that a country, where rain is seldom or ever known, must of necessity be totally barren, whereas the country of Lima enjoys a fertility to be envied, producing all kinds of grain, and a prodigious variety of fruits. Here industry and art supply that moisture which the clouds seem to withhold; and the soil is by this means rendered remarkably fruitful, amidst a continual drought.

It has already been observed, that one of the principal cares of the Yncas was the cutting and disposing in the most advantageous manner trenches or small canals, in order to conduct the waters of the rivers to nourish every part, and render large fields capable of producing grain. The Spaniards finding these useful works ready executed to their hands, took care to keep them in the same order; and by these are watered the spacious fields of wheat and barley, large meadows, plantations of sugar-canes and olive-trees, vineyards,

vineyards, and gardens of all kinds, all yielding uncommon plenty. \* Lima differs from Quito, where the fruits of the earth have no determined seasons; but here the harvests are gathered in, and the trees drop their leaves, according to their respective natures; for those which grow spontaneously in a hot climate, though the liveliness of their verdure fades, their leaves do not fall off till others supply their place. The blossoms also have their respective times, and are correspondently succeeded by fruits; so that this country resembles those of the temperate zones, no less in the product and seasons of corn, blossoms, fruits, and flowers, than in the difference of winter and summer.

Before the earthquake in 1687, when this city suffered in so deplorable a manner, the harvests of wheat and barley were sufficient to supply the wants of the country without any importation, especially of wheat; but by this convulsion of nature, the soil was so vitiated, that the wheat rotted soon after it was sown, occasioned, probably, by the vast clouds of sulphureous particles then exhaled, and the prodigious quantities of nitrous effluvia diffused through it. This obliged the owners of the lands to apply them to other uses, and accordingly many of them were turned into meadows of clover, plantations of sugar-canes, and other vegetables, which they found not subject to the same misfortune. After the land had continued forty years in this state of sterility, the husbandmen began to perceive such alteration in the soil, as promised a speedy return to its former goodness. Accordingly some trials were successfully made with wheat, and by degrees that grain was found to thrive as before that dreadful event. But whether it be from the other plants, which have been cultivated in those parts, or from any mistrust of the husbandmen, the same quantity has not been sown as before. It is natural to think that the late dreadful earthquake must have had the same pernicious effects on the soil; though by means of the establishment of the corn trade with Chili since that time, the consequences will not be so sensibly felt. The fields in the neighbourhood of Lima are chiefly sown with clover, of which there is here a consumption not to be paralleled in any other place: it being the common fodder for all beasts, particularly the mules and horses, of which there is an inconceivable number.

The other parts of the country are taken up with plantations already mentioned, among which those of canes are not the least, and yield an excellent kind of sugar. All these fields and plantations are cultivated by negro slaves, purchased for this service; and the same is seen in the other improved parts of Valles.

The olive plantations appear like thick forests; for besides the height, magnitude, and fulness of leaves of these trees, in all which they exceed those of Spain, they are never pruned, by which means their branches become so interwoven, that the light cannot penetrate through their foliage. The plough is not used here; the only cultivation they require, being to clear the holes made at the foot of each for receiving the water, to keep the trenches open which convey it, and every three or four years to cut down all shoots or cions, in order to form passages for gathering the fruit. With this small trouble the inhabitants have an uncommon plenty of the finest olives, which they either commit to the press for oil, or pickle, they being particularly adapted to the latter, both with regard to their beauty, largeness, and flavour. Their oil is much preferable to that of Spain.

The country contiguous to the city is covered with gardens, producing all the herbs and fruits known in Spain, and of the same goodness and beauty, besides those common to America; all which flourish here in a very uncommon degree; so that none of the parts of Peru, at least such as we visited, are to be compared with those of the neighbour.

neighbourhood of Lima, where every place is covered with fruits and esculent vegetables.

It also enjoys another singular advantage, the whole year being, as it were, summer with regard to the plenty and freshness of fruits; for the seasons of the year varying alternately in Valles and the mountains, when the time of fruits is over in Valles, it begins on the skirts of the mountains; and the distance from Lima being not above twenty-five or thirty leagues, they are brought thither, and by this means the city is constantly supplied with fruits, except a few, as grapes, melons, and water-melons, which requiring a hot climate, do not come to perfection in the mountains.

The grapes are of various kinds; and among them, one called the Italian, very large and delicious. The vines extend themselves on the surface of the ground, which is very well adapted to support them, being either stony or full of sand. These vines are pruned and watered at proper times, and thrive remarkably without any other care.

No other culture is bestowed on those designed for wine, for both at Ica, Pisco, Nasca, and all other parts where they grow, they are formed into espaliers. None of the grapes near Lima are used in making wine, the demand for them in other respects being too large.

The soil is stony and sandy, that is, consisting of smooth flints or pebbles, which are so numerous that as other soils are entirely sand, rock, or earth, this is wholly of the above stones; and in some parts prove very inconvenient to travellers, whether in a carriage or on horseback. The arable lands have a stratum of about a foot or two of earth, but below that the whole consists entirely of stones. From this circumstance, the similarity of all the neighbouring coasts, and the bottom of the sea, this whole space may be concluded to have been formerly covered by the ocean, to the distance of three or four leagues, or even farther, beyond its present limits. This is particularly observable in a bay about five leagues north of Callao, called Marques, where in all appearance, not many years since, the sea covered above half a league of what is now Terra Firma, and the extent of a league and a half along the coast.

The rocks in the most inland part of this bay are perforated and smoothed like those washed by the waves; a sufficient proof that the sea formed these large cavities, and undermined such prodigious masses as lie on the ground, by its continual elisions; and it seems natural to think that the like must have happened in the country contiguous to Lima, and that parts, consisting of pebbles like those at the bottom of the adjacent sea, were formerly covered by the water.

Another singularity in this arid country is, the abundance of springs, water being found every where with little labour, by digging only four or five feet below the surface. This may arise from two causes; the one, that the earth, being, from its composition, very spongy, the water of the sea easily insinuates itself to a great distance, and is filtrated in passing through its pores. The other, that the many torrents, after descending from the mountains, soon lose themselves in these plains, but continue their course along the subterranean veins of the earth; for this stony quality of the soil from the nature of the springs cannot extend to any great depth, and underneath it the stratum is hard and compact; consequently the water must be conveyed to the most porous parts, which being the stony, it there precipitates into a subterranean course, leaving the surface dry. We have already observed\* that from many of the rivers in Valles, though apparently dry, the inhabitants procure a sufficient quantity

\* Chap. I. of this Part.

of water by digging wells in the beds over which their waters run in the winter: others might be passed without being known, but the bottom consisting entirely of pebbles, wherever the beast set their feet, the water immediately oozes out. The reason of this is, that the water at that time runs a little below the surface, and I do not doubt but the same will be found in all Valles, though at different depths in different places.

This plenty of subterraneous streams is doubtless of great advantage to the fertility of the country, particularly with regard to the larger plants, whose roots strike deepest; and this seems a bountiful indulgence of the wise Author of Nature, who, to provide against the sterility which would certainly affect these countries from a want of water, has sent a supply from the mountains, either in open rivers or subterraneous canals.

The lands in the jurisdiction of Chancay, like the other parts of the coasts of Peru, are manured with the dung of certain sea birds, which abound here in a very extraordinary manner. These they call guanoes, and the dung guano, the Indian name for excrement in general. These birds, after spending the whole day in catching their food in the sea, repair at night to rest on the islands near the coast, and their number being so great as entirely to cover the ground, they leave a proportionable quantity of excrement or dung. This is dried by the heat of the sun into a crust, and is daily increasing, so that notwithstanding great quantities are taken away, it is never exhausted. Some will have this guano to be only earth endowed with the quality of raising a ferment in the soil with which it is mixed. This opinion is founded on the prodigious quantities carried off from those islands, and on the experiment made by digging or boring, by which the appearance at a certain depth, was the same as at the superficies; whence it is concluded, that the earth is naturally endowed with the heating quality of dung or guano. This would seem less improbable, did not both its appearance and smell prove it to be the excrement in question. I was in these islands when several barks came to load with it; when the insupportable smell left me no room to doubt of the nature of their cargo. I do not however pretend to deny, but that it may be mixed with earth, or that the most superficial part of the earth does not contract the like virtue, so as to produce the same effect. But however it be, this is the manure used in the fields sowed with maize, and with proper waterings is found greatly to fertilize the soil, a little of it being put close to every stem, and immediately watered. It is also of use in fields of other grain, except wheat and barley, and, consequently, prodigious quantities of it yearly used in agriculture.

Besides the orchards, fields, and gardens, with which this country is so delightfully variegated, there are other parts where nature itself spontaneously furnishes beautiful prospects for the inhabitants, and plenty of excellent food for their cattle; particularly the hills of St. Christopher and Amancaes, whose perpetual verdure, diversified in spring with elegant flowers, seems to invite the neighbouring inhabitants to a nearer enjoyment of the beauties it presents at a distance to their view. The parts in the neighbourhood of the city, to the distance of six or eight leagues, offer the like entertainment; and accordingly many families resort thither for the change of air, and the tranquillity of rural amusement. The hills called Amancaes, already mentioned, have their name from a certain flower growing on them. It is yellow, and of the campanula form, with four pointed leaves. Its colour is remarkably brilliant, and in that wholly consists its value, being totally void of fragrancy.

Besides these delightful retreats, the city has a public walk in the suburb of St. Lazaro, called Alameda, consisting of rows of orange and lemon trees; along the banks of the

the river is another, called the Acho, to which there is a daily resort of coaches and calashes.

The only monuments of antiquity remaining in the neighbourhood of Lima, are the guacas, or sepulchres of the Indians, and some walls, which were built on both sides of the roads, and are frequently seen all over this country. But three leagues north-east of the city, in a valley called Guachipa, are still standing the walls of a large town. Through ignorance I did not visit them whilst I was at Lima: the account of them, however, which the ingenious Marquis de Valde Lyrios was pleased to give me, may be equally relied on, as if related from my own knowledge; especially as he took a very accurate survey of the whole. He observed, that the streets were very narrow; that the walls of the houses, which in common with all the buildings of that time were without roofs, were only of mud, and that each house consisted of three small square apartments. The doors towards the street, were not so high as the general stature of a man, but the walls wanted little of three yards. Among all the houses which composed this large town, situated at the foot of a mountain, is one, whose walls overlook all the others, and thence it is concluded to have belonged to the cacique or prince; though its ruinous condition renders it impossible to determine absolutely. The inhabitants of this valley, where the fruitful fields are watered from the river Rimac, at no great distance from these ruins, call them Old Caxamarca, though it cannot now be discovered whether that was the real name of the town in the times of paganism. For there neither remains any memorial of such tradition, nor any mention of it in the histories of that kingdom, written by Garcilazo and Herrera; so that all we know is, that the epithet Old is now applied to it by way of distinction from the present town of Caxamarca.

One astonishing particular in the walls of this town, and in all others in the neighbouring valleys, is, that though built on the surface of the earth, without any foundation, they have withstood those violent earthquakes which overthrew the more solid buildings of Lima and other large towns erected in the Spanish manner: having received no other damage than what naturally results from being forsaken, or what the drivers have done who make it a resting place for their cattle in the road to Lima.

From the construction of these houses it may be inferred, that long experience has instructed the natives, that in parts so subject to earthquakes, it was improper to lay a foundation in order to strengthen the walls; and tradition informs us, that when the newly-conquered Indians saw the Spaniards dig foundations for lofty buildings, they laughed at them, telling them they were digging their own sepulchres; intimating, that the earthquakes would bury them under the ruins of their houses. It is indeed a melancholy proof of pride and obstinacy, that after having the prudent example of the Indians before their eyes, the total ruin of the city, at four different times, in less than the space of two hundred years, has not been able entirely to eradicate the destructive passion for airy and elegant buildings, though these necessarily require large and lofty walls, which must have a foundation proportioned to the magnitude of the structure, and the weight they are to support.

#### CHAP. IX. — *Of the Plenty and different Kinds of Provisions at Lima.*

THE fertility of the soil, the goodness of the climate, and the convenient situation of Lima, concur to maintain in it a constant plenty. The fruits and herbs have been

already mentioned; it remains that we consider the meat and fish with which it is also equally provided.

The bread at Lima is incontestably the best in all this part of America, both with regard to its colour and taste, the goodness of the corn being improved by the manner of working it; and at the same time so reasonable, that the inhabitants use no other. It is of three kinds: one called *Criollo*, the crumb of which is very light and spongy; the second, French bread; and the last, soft bread. It is kneaded by negroes employed by the bakers, many of whom are very rich, and their shops always well provided. Besides their own slaves, the bakers are also obliged to receive any delivered up to them by their masters to work as a punishment; and for these, besides finding the slaves in provisions, they pay the master the usual wages in money or in bread. This punishment is the severest that can be inflicted on them, and, indeed, all the hardships and cruelties of the galleys are less than what these wretches are obliged to undergo. They are forced to work the whole day, and part of the night, with little food and less sleep; so that in a few days the most vigorous and stubborn slave becomes weak and submissive, and prostrates himself before his master, with tears, intreaties, and promises of amendment on being removed from that place, the dread of which is doubtless of the greatest use in awing the vast number of slaves, both within and without the city.

Their mutton is the most common food, and is very palatable from the nitrous pastures where the sheep are fattened. The beef also is good, but little eaten except by the Europeans, so that two or three beasts supply the city for a week. Here is also plenty of poultry, partridges, turtle-doves, &c. Pork is also in great abundance, though not equally delicate with that of Carthagena. The lard is used in dressing all kinds of dishes whether of flesh or fish, oil being only used in salads and the like. This method of cookery is said to have had its rise when the country afforded no oil, and has been continued to the present time, notwithstanding it is now produced in great quantities. Antonia de Rivero, an inhabitant of Lima, in the year 1660, planted the first olive-tree ever seen in Peru.

From the mountains are often sent, by way of present, frozen calves; being killed there, and left two or three days on the heaths to freeze; after which they are carried to Lima, where they may be kept any time required, without the least tendency to putrefaction.

Of fish there is still a greater variety daily brought from the neighbouring parts of Chorillos, Callao, and Ancon, the Indian inhabitants of which make fishing their whole business. The most palatable are the corbinas, and the *pege reyes*, or king's fish; but those in the greatest plenty, and at the same time very palatable, are the anchovies. The corbinas, and the king's fish, infinitely excel those of Spain; the latter is also remarkable for its size, being generally six or seven Paris inches in length; yet even these are thought to be surpassed by those caught in Buenos Ayres river. It is a salt-water fish, but very little different from that caught in the rivers of Spain. The river of Lima affords a sort of prawns, two or three inches in length, but those should rather be called cray-fish.

The whole coasts abound with such shoals of anchovies, as exceed all comparison; and besides the vast quantities caught by fishermen, they are the chief food of innumerable flights of birds, with which all those islands abound, and commonly called guanoes, possibly from the guano or dung mentioned in the preceding chapter; many of them are indeed alcatraces, a kind of gull, though all comprehended under the generical name of guanoes. A little after the appearance of the sun, they rise from those islands

islands in such large and thick flights as totally to cover them, and fly towards the sea for an hour or two, without any visible decrease of their number. When at some distance from the land they divide themselves, and begin their fishing in a very entertaining manner. They fly in a circle at a considerable height above the water, and, on seeing a fish, they dart down with their beak foremost and their wings closed with such force, that the agitation of the water is seen at a distance; after which, they rise again into the air, and devour the fish. Sometimes they remain a considerable time under water, and rise at some distance from the place where they fell, doubtless because the fish has endeavoured to escape, thus disputing celerity with them in their own element. They are continually seen in the place they frequent, some watching in gyrations, some darting down, others rising with their prey; while their great numbers render this confusion diverting to the spectator. When they are either tired or satisfied, they alight upon the waves, and, at sun-set, forming themselves into one body, withdraw to the islands where they pass the night.

At the port of Callao it is observed, that all the birds which rest on those islands to the north of it, in the morning universally fly towards the south in quest of prey, returning in the evening to their place of rest; when the middle of the flight is over the harbour, neither the beginning nor end can be seen, and the whole flock take up two or three hours in passing over.

Though shell-fish are very scarce along this coast, some are found near Callao; particularly a kind, the shell of which resembles that of a muscle, though much larger. The fish itself has more the appearance of an oyster, and much the same taste.

The wines at Lima are of different sorts, white, red, and dark red: and of each sort some are very generous and delicious. They are imported from the coasts of Nasca, Pisco, Lucumba, and Chili; but the latter produces the best, and among them some muscadell. The wine of Nasca is white, and has the least demand of any, being inferior to the others, both in quality and taste. That from Pisco has the greatest sale; and, from the same place, come all the brandies, either used at Lima or exported; no rum being either made or used here.

Most of the dried fruits are brought from Chili; and, by means of the trade carried on between the two kingdoms, Lima is supplied with all manner of fruits known in Spain, as almonds, walnuts, filberts, pears, apples, &c. so that their tables cannot, in this respect, fail of plenty and elegance, having at one time the fruits of the different seasons, both of America and Europe. But amidst this plenty, every thing is very dear, the price being four or five times as much as at Quito, bread only excepted. Wine, oil, and dried fruits, are some of the cheapest. The poor class, however, as the negroes and other castes, live tolerably well, fish, which is little esteemed by the opulent, selling at a low price; the same may be said of mutton and beef, with regard to the inhabitants of this country in general.\*

Sweetmeats are also here in the same plenty as in the other parts of South America, though seldom eaten, except as desserts, and even then very moderately. Instead of chocolate, mate or Paraguay tea is generally used, and prepared twice a day. Though this has here the defect already observed, it is better prepared than in any other part.

\* A quarter of their best beef may be bought for eight rials (3s. 7d. sterling); the hide of a beef being, commonly, of more value than the carcase. A.

CHAP. X. — *Trade and Commerce of Lima.*

THE city of Lima could not have attained to such splendour, if, besides being the capital of Peru, it had not been also the general staple of the kingdom. But as it is the residence of the government and chief tribunals, so it is also the common factory for commerce of every kind, and the centre of the products and manufactures of the other provinces, together with those of Europe, brought over in the galleons or register-ships; and from hence they are distributed through the vast extent of these kingdoms, whose wants are supplied from Lima, as their common mother. At the head of this commerce is the tribunal Del Consulado, which appoints commissaries to reside in the other cities of its dependencies, extending through all Peru.

All the wealth of the southern provinces is brought to Lima, where it is embarked on board the fleet, which, at the time of the galleons, sails from Callao to Panama. The proprietors of the treasure commit it to the merchants of Lima, who traffic at the fair with this and their own stock. The same fleet returns to the harbour of Païta, where the European merchandizes of value purchased at Porto Bello fair are landed, in order to avoid the delay of sailing to Callao, and sent by land to Lima, on droves of mules; but those of less value are carried thither by the same ships.

On the arrival of these commodities at Lima, the merchants remit to their correspondents such parts as they had a commission to purchase, reserving the rest in warehouses to dispose of on their own account to traders, who at this time resort to Lima, or send them to their factors in the inland provinces, who remit the returns in money or bills of exchange to their principals at Lima. These consignments are repeated till they have disposed of their whole stock. Thus the cargo of a flotilla lasts a considerable time, there being no immediate vent for the whole.

The produce of the sales in the inland parts of the kingdom, is sent to Lima in bars of silver, and pignas\*, and is coined at the mint in this city. Thus the traders have not only a great profit in the sale of their goods, but also in the returns of their silver, which they take at a lower rate than is allowed them for it. All these sales may be considered as an exchange of one commodity for another; for he who sells the goods agrees both with regard to their price, at the rate in which he is to take the silver bars, or pignas; and thus two species of trade are transacted at the same time, one on a sale of goods, and the other of silver.

The remittances sent to Lima during the interval between the flotillas, are laid out in manufactures of the country, great quantities of which come from the province of Quito; and this trade is carried on in all respects like the former; for the consumption of them being equal or rather larger, they are not less necessary here than in Europe, being worn by all the lower class of people, who cannot afford the price of the European stuffs; and the generality of traders who come to Lima purchase stuffs of both kinds, that they may be provided with assortments for customers of all ranks.

Besides this commerce, which is the most considerable, and transacted wholly by means of this city, Lima has also its particular trade with the kingdoms both of North and South America. The most considerable commodity received from the former is snuff, which is brought from the Havannah to Mexico, and after being there improved, is forwarded to Lima, and from thence sent into the other provinces. This trade is

\* Pignas are porous light masses of silver, being an amalgam of mercury and dust taken out of the mines.

carried on nearly in the same manner as that of Panama ; but those who deal in this commodity, never trouble themselves with any other except perfumes, as ambergris, musk, &c. and porcelain ware. Some of these traders are settled at Lima ; others reside there occasionally, but are in general factors to the merchants at Mexico. Lima also receives from the ports of New Spain naphtha, tar, iron, and some indigo for dyeing.

The kingdom of Terra Firma sends to Lima leaf-tobacco, and pearls, which here meet with a good market ; for besides the great numbers worn by the ladies, no mulatto woman is without some ornament or other made of them. During a free affiento of negroes, this commerce is always carried by way of Panama, and to a considerable amount.

The ladies, and indeed women of all ranks, have a very ancient custom, namely, the carrying in their mouths a limpion, or cleaner, of tobacco. The first intention of this was to keep the teeth clean, as the name itself intimates. These limpions are small rolls of tobacco, four inches in length, and nine lines in diameter, and tied with a thread, which they untwist as the limpion wastes. One end of this they put into their mouth, and after chewing it for some time, rub the teeth with it, and thus keep them always clean and white. The lower class of people, who generally pervert the best things, carry this custom to such excess, as to keep continually in their mouths a roll of tobacco, an inch and a half in diameter ; affecting to distinguish themselves by the largeness of their limpions, though it absolutely disfigures them. This custom, together with that of smoking, which is equally common among the men, occasions a great demand for leaf-tobacco. The limpions are made of Guayaquil tobacco mixed with some of that brought from the Havannah to Panama ; but that used in smoking comes from Santa Mayobamba, Jaen de Bracamoros, Llulla, and Chillaos, where it grows in the greatest plenty, and is best adapted to that purpose.

All the timber used in building houses, refitting ships, or building small barks at Callao, is brought from Guayaquil, together with the cacao ; but the consumption of the latter is here very small, the Paraguay tea being more generally used. The timber trade is carried on by the masters of ships, who bring it hither on their own account, as we have already observed in describing Guayaquil, and, depositing it in store-houses at Callao, sell it as opportunity offers.

The coasts of Nasca and Pisco send to Lima wine, brandy, raisins, olives, and oil : and the kingdom of Chili, wheat, flour, lard, leather, cordage, wines, dried fruits, and some gold. Besides these, all sorts of goods are also laid up at Callao, in store-houses built for that purpose ; some on account of the owners who remit them, others for masters of ships who purchase them on the spot where they grow, or are made. Every Monday during the whole year there is a fair at Callao, whither the proprietors and dealers resort from all parts ; and the goods are carried, according to the buyers' direction, on droves of mules kept there for that purpose by the masters of the warehouses, and whose profit wholly consists in the hire of these beasts.

The provisions brought to Lima are not only sufficient to supply its numerous inhabitants, but great quantities of all kinds are sent to Quito, and its jurisdiction, to Valles, and Panama. Copper and tin in bars are brought from Coquimbo ; from the mountains De Caxamarca and Chacapoyas, canvas made of cotton for sails and other stuffs of that kind, and also of Pita : cordovan leather, and soap, are made all over Valles\*.

\* Their cotton canvas is not above four inches wide, so that sail-making in this part of America is very tedious ; but their sails made of this narrow canvas are very strong and lasting. A.

From the southern provinces, as Plata, Oruro, Potosi, and Cusco, is sent Vicuna wool for making hats, and some stuffs of a peculiar fineness. Lastly, from Paraguay the herb called by that name is sent, of which there is an amazing consumption, it being sent from Lima among the other provinces, as far as Quito. There is no province in Peru, which does not remit to Lima its products and manufactures, and supplies itself from hence with the necessary commodities. Thus Lima is the emporium to which people resort from all parts; and trade being always in a constant circulation, besides the continual resort of strangers, the families of rank are enabled to support the expences of that splendour I have already mentioned; for, without such continual assistance, they must either contract their expences, or fall victims to their ostentation.

It would naturally be imagined that by a commerce so extensive and important, many vast fortunes must be acquired, especially as every branch of it is attended with great profits; but if there are some who actually do acquire great riches, neither their number nor opulence are equal to what might be expected; for by a narrow inspection, there will hardly be found above ten or fifteen houses of trade, exclusive of immovables, as lands and offices, whose stock in money and goods amounts to five or six hundred thousand crowns; and to one that exceeds this sum, there are more that fall short of it. Many possess from one to three hundred thousand crowns, and these are indeed the persons who compose the main body of trade. Besides these there are great numbers of inferior traders, whose capitals do not exceed fifty or a hundred thousand crowns. The paucity of immense fortunes amidst such advantages is doubtless owing to the enormous expences; whence, though their gains are great, they can hardly support their credit; so that after paying the fortunes of their daughters, and the establishing their sons, the wealth of most families terminates with the life of him who raised it, being divided into as many small stocks as he had dependents; unless some, either by industry or good fortune, improve the portion they obtained by inheritance.

The inhabitants of Lima have a natural disposition and aptitude for commerce, and the city may be considered as an academy to which great numbers repair to perfect themselves in the various arts of trade. They both penetrate into the finesses of the seller, and artfully draw the purchaser into their views. They are blessed with a remarkable talent of persuasion, at the same time that they are incapable of being persuaded, as well as of artfully eluding objections. They affect to slight what they are most desirous of purchasing, and by that means often make very advantageous bargains, which none can obtain from them. But after all these precautions and finesses in buying and selling, for which they are so distinguished, none are more punctual and honourable in performing their contracts.

Besides the shops where stuffs and goods of that kind are sold, there are others for snuff; and in these may be purchased the wrought plate, which is bought in the cities near the mines, where it is made.

The wholesale traders, who have large warehouses, are not above keeping shops where they sell by retail, which is reckoned no disgrace; and thus they gain that profit which they must otherwise allow to others. And from this indulgence granted to every branch of commerce, it flourishes very greatly. There are, however, many families, who, as I have already observed, support a proper splendor entirely by the revenue of their estates, without joining in the cares and hurry of commerce. But a greater number with estates, add the advantages of commerce, in order to preserve them. These, however, deal only at the fairs of the galleons, and in other large branches of commerce; and find the benefit of having abandoned those scruples brought by their ancestors from Spain, namely, that trade would tarnish the lustre of their nobility.

CHAP. XI. — *Extent of the Jurisdiction of the Viceroy of Peru: together with the Audi-  
ences and Dioceses of that Kingdom.*

THE foregoing accounts naturally lead to the extent of the audience of Lima, and the jurisdiction of the viceroy of Peru. But such a particular description as I have already given of Quito, requiring a personal knowledge of all its provinces, and jurisdictions, and also a particular work, from the extensiveness of the subject, I shall confine myself to some principal accounts, but which will convey an adequate idea of the vast dominions of this country. In order to this I have consulted several persons, some of which have been vested with high employments here, and others whose commendable curiosity, as natives of this country, had prompted them to acquire an exact knowledge of it. This was a resource of absolute necessity; no opportunity having offered of visiting the inland parts of these countries; and the accounts we received of them at Lima, were not to be depended upon, with that confidence necessary to their being inserted here; for considering the vast distance between the capital and some provinces, it is no wonder they are but little known at Lima. The reader will therefore indulge me in giving a superficial account of some; for according to the method in which I began to write the history, we shall insert such particulars only as are authentic; it being undoubtedly more advantageous to say a little with truth, than to engage in prolix and uncertain particulars.

In order the better to describe the countries governed by the viceroy of Peru, without departing from the plan hitherto observed, I shall divide the whole jurisdiction of its government into those audiences of which it consists; these into the dioceses they contain; and the dioceses into jurisdictions under a corregidor.

The viceroyalty of Peru in South America, extends over those vast countries, included in the jurisdictions of the audience of Lima, Los Charcas, and Chili; and in these are comprehended the governments of Santa Cruz de la Sierra, Paraguay, Tucuman, and Buenos Ayres. Though these three provinces and the kingdom of Chili have particular governors invested with all the authority agreeable to such a character, and as such are absolute in political, civil, and military affairs, yet, in some cases, are subordinate to the viceroy; for instance, on the death of any inferior governor, the vacancy is supplied by him. Before the erection of the viceroyalty of the new kingdom of Granada in 1739, that of Peru; as we have already observed, extended to the countries of the two audiences of Terra Firma and Quito; but those being then separated from it, the bounds of it on the north were the jurisdiction of Piura, which extends to those of Guayaquil and Loxa, and that of Chacapayas, which joins to the government of Jaen de Bracamoros. Thus the viceroyalty of Peru begins at the bay of Guayaquil, at the coast of Tumbez, in  $3^{\circ} 25'$  south latitude, and reaches to the land of Magellan in  $50^{\circ}$ , consequently it extends one thousand and twelve sea leagues. Eastward it partly terminates on Brazil, being bounded by the celebrated line, or meridian of demarkation, or that which separates the dominions of Spain and Portugal, and on the coast of the North Sea: and on the west is terminated by the South Sea.

The audience of Lima, erected in the year 1542, though it was the year 1544 before any session was held in that city, contains within its jurisdiction one archbishoprick, and four bishoprics, viz.

The archbishopric of Lima, and the bishoprics of Truxillo, Guamanga, Cusco, and Arequipa.

The archbishopric of Lima, to which the precedence in every respect belongs, shall be the subject of this chapter. It contains fourteen jurisdictions, which I shall treat of in the order of their situation, beginning with those nearest the capital, and concluding with those which are most remote: the same method shall also be observed in the other dioceses.

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|------------------------------------|------------------|
| I. The Curcado or circuit of Lima. | IX. Yauyos.      |
| II. Chancay.                       | X. Caxatambo.    |
| III. Santa.                        | XI. Sarma.       |
| IV. Canta.                         | XII. Jouxá.      |
| V. Canete.                         | XIII. Conchucos. |
| VI. Ica, Pisco, and Nasca.         | XIV. Gualas.     |
| VII. Guarachia.                    | XV. Guamalies.   |
| VIII. Guanuco.                     |                  |

I. II. III. The jurisdictions of Lima, Chancay, and Santa have been already described in Chap. III.

IV. The jurisdiction of Canta begins at the distance of five leagues north-north-east of Lima, where it terminates on the curcado of that city. It extends above thirty leagues, and the greater part of them taken up by the first branch of the Cordillera of the Andes; so that the temperature of the air is different in different parts of the country; that part which lies low or among the valleys being hot, those on the skirts of the mountains, which are also intermixed with some plains, temperate; and those in the upper parts of the mountains cold. This difference of air is of great advantage both to the fruits of the earth and pastures; for by appropriating every species to its proper degree of heat, the produce is large, and exceedingly good. Among all the fruits the papa is particularly distinguished, and the roots carried to Lima, where they meet with a good market. The vast fields of bombon, part of which belongs to this jurisdiction, are by their high situation always cold; yet they afford pasture for innumerable flocks of sheep. These extensive tracts of land are divided into haciendas, or estates belonging to noble families of Lima. At Guamantanga, one of the towns in this jurisdiction, is a miraculous crucifix, devoutly worshipped; the inhabitants of Lima, and the neighbouring country, go thither in pilgrimage at Whitsuntide to assist at a festival, instituted particularly in honour of it.

V. The town of Canete is the capital of the jurisdiction of its name. Its jurisdiction begins at the distance of six leagues south from Lima, and extends along the coast in the same rhumb above thirty leagues. The temperature of the air in this jurisdiction is the same with that in the valleys of Lima; and the country being watered by a large river, and other lesser streams, produced vast quantities of wheat and maize. Great part of the lands are planted with canes, from whence they extract an excellent sugar. These profitable tracts of land belong also to noble families. In the neighbourhood of Chilca, situated about ten leagues from Lima, is found saltpetre of which gunpowder is made at that city. Besides these advantages it has a good fishery, which affords a comfortable subsistence to the Indian inhabitants of the towns, particularly those situated near the sea-coast: together with plenty of fruits, pulse, and poultry, the breeding of which is another occupation of the Indians; whence a large trade is carried on between this jurisdiction and Lima.

VI. Ica, Pisco, and Nasca, are three towns which denominate this jurisdiction; one part of it runs along the coast southward, and its territories extend above sixty leagues;

but

but are intermixed with some deserts, and the country being sandy, those parts which are beyond the reach of the trenches cut from the rivers are generally barren. I say generally, because there are some tracts, which, without the benefit of an artificial watering, are planted with vines, and produce excellent grapes, the roots being supplied with moisture from the internal humidity of the earth. Great quantities of wines are made from them, and chiefly exported to Callao, and from thence to Guayaquil and Panama; also to Guamanga, and other inland provinces: they also extract from these wines great quantities of brandy. Some parts of this jurisdiction are planted with olive-trees, which produce excellent fruit either for eating or oil. The fields, which are watered by the trenches, yield an uncommon plenty of wheat, maize, and fruits. The jurisdiction of Ica is remarkable for spacious woods of algarrobales or carob-trees, with the fruit of which the inhabitants feed vast numbers of asses, for the uses of agriculture. The Indians who live near the sea apply themselves to fishing, and after salting carry it to the towns among the mountains, where they never fail of a good market.

VII. The jurisdiction of Guarachia contains the first chain and part of the second of the mountains, extending itself along these chains above forty leagues. This province begins about six leagues east of Lima. From the disposition of its parts, those places only which lie in the valley, and in the breaches of the mountains, are inhabited; and these are very fertile, producing great quantities of fruit, wheat, barley, maize, and other grain. In its mountains are several silver mines, though but few of them are wrought, being none of the richest.

VIII. Guanuco is a city and the capital of its jurisdiction, which begins forty leagues north-east of Lima. This city was formerly one of the principal in these kingdoms, and the settlement of some of the first conquerors; but at present in so ruinous a condition, that the principal houses where these great men lived remain as it were only monuments of its former opulence. The other parts of it can hardly be compared to an Indian town. The temperature of the air in the greatest part of its territories is very pure and mild; and the soil fruitful. Several kinds of sweetmeats and jellies are made here, and sold to other provinces.

IX. The jurisdiction of Yauyos begins twenty leagues south-east from Lima, and takes up part of the first and second chain of the Cordilleras; consequently the temperature of the air is different in different parts. The greatest length of this jurisdiction is about thirty leagues, and abounds in fruit, wheat, barley, maize, &c. whilst other parts are continually clothed with verdure, and feed numerous herds and flocks for the markets of Lima; and these are the most considerable articles of its commerce.

X. The jurisdiction of Caxatamba, which begins thirty-five leagues north of Lima, extends about twenty leagues, and partly among the mountains, whence the temperature of the air is various; but the whole territory is very fertile in grain. It has also some silver mines, which are worked, and the Indians have manufactures of bays, which make part of the trade of this jurisdiction.

XI. The jurisdiction of Sarma is one of the largest in this archbishopric. It begins forty leagues north-east from Lima, and terminates eastward on a tract of land inhabited by wild Indians, called Maran-cochas, who often make inroads into the territories of this jurisdiction. The difference of the air in its several parts, renders it capable of producing all kinds of grain and fruits, which the inhabitants are not wanting to improve. The temperate parts are sown with wheat, barley, maize, and other grain; while the colder parts afford pasture to infinite numbers of cattle of all kinds. This province is also rich in silver mines; and as many of them are worked, they spread affluence all over the country. Besides these important sources of commerce, and that

of the cattle, the making of bays and other coarse stuffs, profitably employ great numbers of Indians in most of its towns.

XII. The jurisdiction of Jouxá borders on the southern extremity of the former, and begins about forty leagues east of Lima, and extends forty more along the spacious valleys and plains between the two Cordilleras of the Andes. In the middle of it runs a large river, called also Jouxá, the source of which is in the lake of Chincay-Choca, in the province of Sarma. It is also one of the branches of the river of the Amazons. The whole jurisdiction of this province is divided into two parts by the river, and in both are several handsome towns, well inhabited by Spaniards, Mestizos, and Indians. The soil produces plenty of wheat and other grain, together with a great variety of fruits. It has also a considerable share of trade, being the great road to the provinces of Cusco, Paz, Plata, and others to the southward, here called Tierra de Ariba, or the Upper Country. Like the former, it borders eastward on the wild Indians of the mountains, but among which the order of St. Francis has established several missions, the first being in the town of Ocopa. Within its dependances are several silver mines, some of which being worked, greatly increase the riches of this province.

XIII. The jurisdiction of Conchucos begins forty leagues north-north-east of Lima, and extends along the center of the Cordillera; so that its air is different according to the height of the situation of its several parts, the mildest of which produce all kinds of grain and fruits, and the others, where the effects of the cold checks this fertility, afford pasture for cattle of all kinds. In this jurisdiction are great numbers of looms; the principal occupation of the Indians being several kinds of woollen manufactures, and these constitute the greatest part of its commerce with other provinces.

XIV. The province of Guyalas, like the former, extends along the center of the Cordillera, beginning fifty leagues from Lima, and in the same direction as the other; this jurisdiction is large, and has different temperatures of air. The low parts produce grain and fruits, the upper abound in cattle and sheep, which form the greatest branch of their trade.

XV. The last is that of Guamalies, which, like the former, is situated in the center of the Cordillera, consequently its air very different. This jurisdiction begins eighty leagues north-east of Lima, and its situation being rather cold than temperate, few places are fertile in its whole extent, which is above forty leagues. The Indian inhabitants of the towns apply themselves to weaving, and make a great variety of bays, ferges, and other stuffs, with which they carry on a very considerable trade with the other provinces, destitute of such manufactures.

The preceding provinces, together with the following in the audience of Lima, as in those belonging to Charcas, are full of towns, villages and hamlets, inhabited by Spaniards, Mestizos, and Indians; but with some difference, the number of Spaniards being greater in some, and in others that of the Indians. Many of them are indeed solely inhabited by the latter. The distance from the capital of the province, especially to the towns situated on its frontiers, being so great, as to render it impossible for the corregidor to discharge his office every where with the necessary punctuality and attention, the province is divided into several districts, consisting of three or four towns, more or less, according to their largeness and distance; and over these is placed a delegate.

Every settlement of any consequence maintains a priest; and so commendable is their provision in this respect, that sometimes two, three, or more small places join to support one, either alone or with a curate; so that some ecclesiastics have distant settlements under their care. These incumbents are either seculars or regulars, according to

to the right acquired by each of these classes, as having been employed in the conversion of the Indians immediately after the conquest.

CHAP. XII. — *Of the Provinces in the Dioceses of Truxillo, Guamanga, Cusco, and Arequipa.*

NORTH of the archiepiscopal diocese of Lima, lies the bishopric of Truxillo, and with it terminates on that side both the jurisdiction of that audience, and the viceroyalty of Peru: but the whole extent of this diocese is not under the jurisdiction of this audience, nor of that of the viceroy: for it also includes the government of Jaen de Bracamoros, which, as we have already observed, belongs to the province and audience of Quito. We shall therefore exclude it, and only give an account of the seven jurisdictions in the diocese of Truxillo belonging to the viceroyalty of Peru, and the audience of Lima.

Jurisdictions in the diocese of Truxillo:

- |                |                               |
|----------------|-------------------------------|
| I. Truxillo.   | V. Chachapayas.               |
| II. Sana.      | VI. Llulla, and Chilloas.     |
| III. Piura.    | VII. Pataz, or Caxamarquilla. |
| IV. Caxamarca. |                               |

I. II. III. A sufficient account having already been given (Chap. I. II.) of the jurisdictions of Truxillo, Sana, and Piura, it only remains to speak of the other four.

IV. Caxamarca lies to the eastward of Truxillo, and its jurisdiction extends along a vast interval betwixt the two Cordilleras of the Andes. It enjoys a fertility of all kinds of corn, fruits, and esculent vegetables; also cattle, sheep, and especially hogs, of which they sell vast numbers to the farmers in the valleys, who, after fattening them with maize, send them to the markets in the great towns; particularly the farmers of the valley of Chincay and others, who derive a considerable trade in these creatures at Lima, Truxillo, and other flourishing places. The Indians throughout this jurisdiction weave cotton for ships' sails, bed-curtains, quilts, and other uses, which are sent into the other provinces. Here are also some silver mines, but of little consequence.

V. On the same side, but more towards the east, lies the jurisdiction of Chachapayas. Its temperature is hot, being without the Cordilleras, and to the eastward its territories have a low situation. It is of great extent, but very thinly inhabited; and the products of the earth only such as naturally flourish in such a climate. The Indians here are very ingenious in making cottons, particularly tapestry, which, for the liveliness of the colours and delicacy of the work, make an elegant appearance; these, together with the sail-cloth, bring great profits to this country, being highly valued in the other provinces.

VI. South of Chachapayas, and also on the east side of the Cordillera of the Andes, lies the jurisdiction of Llulla and Chilloas, which is low, warm and moist, and covered with woods, so that great parts of it are uninhabited. It borders on the river of Mayabamba, which, beginning its course from these southern provinces of Peru, forms the river of the Amazons, as we have already observed. The principal commodity of this country is tobacco, which, with a particular kind of almonds called andes, and a few other fruits natural to its climate, form the commerce carried on by this province with the others.

VII. The last jurisdiction of this diocese is that of Pataz, or Caxamarquilla. From its different situations it has a variety of products; but is particularly remarkable for gold mines; its chief commerce consisting in exchanging that metal for current money, especially silver coin, which is the more esteemed here for its scarcity.

Guamanga the second diocese:

The city of Guamanga, the capital of this diocese, was founded in the year 1539, by Don Francisco Pizarro, on the site of an Indian village of the same name. The Spaniards added the name of San Juan del la Victoria, in memory of the precipitate retreat of Manco the Ynca, from Pizarro, who offered him battle. This city was founded for the conveniency of the trade carried on between Lima and Cusco; for during this long distance, there was at that time no town, whence the travellers frequently suffered by the incursions of Manco's army. This gave occasion to building the city on the spot where the Indian village stood, though extremely inconvenient with regard to provisions, as lying contiguous to the great chain of the Andes; but the war being happily terminated by the entire defeat of Manco's party, the city was removed to its present situation. Its jurisdiction, regulated at the time of its foundation, began at the frontiers of Jouxá, and reached to the bridge of Valcas; but at present it is bounded by the provinces which surround it, and contains the town of Anco, about three leagues from it: the city is situated on the declivities of some mountains not remarkable for their height, which, extending southward, inclose a spacious plain to the eastward of the town, watered by a small stream descending from the neighbouring mountains; but the ground on which the city is built being higher than the breach through which the river flows, the inhabitants were obliged to provide themselves with small fountains. Among the number of inhabitants, Guamanga boasts at least of twenty noble families, who live in the center of the town, in spacious houses of a considerable height, built partly of stone, and covered with tiles. Besides the largeness of the apartments, they have extensive gardens and orchards, though it is no small difficulty to keep these in order, on account of the scarcity of water. The large Indian suburbs round the city add greatly to its extent, and the houses though low are chiefly of stone, and roofed, which considerably augments the appearance of the city. This is indeed the general manner of building in the towns of the kingdom, remote from the coast.

The cathedral is very splendid, and its chapter, besides the bishop, consists of a dean, archdeacon, chanter, two canons by composition, a penitentiary, and two prebendaries. It has a seminary for the service of the church, under the title of St. Christopher. The church of this seminary is that belonging to the parish of the Spaniards, and another dedicated to St. Ann, the parish-church of the Indians. Besides these are the chapels of Carmenca, Belin, St. Sebastian, and St. John the Baptist, depending on it. The parish of Magdalena, inhabited by Indians, is under the care of the Dominicans, and the incumbent has the title of priest. The city has also an university, with professors of philosophy, divinity, and law, and equal privileges with that of Lima, they being both royal foundations. The corporation is composed of the principal nobility of the city, at the head of which is the corregidor, and out of this body the alcaldes are chosen, to superintend the civil and political government.

Within the walls of this city are the convents of St. Dominic, St. Francis, the fathers of Mercy, St. Augustine, St. Juan de Dios, a college of Jesuits, an hospital of St. Francis de Paula. The nunneries are of the order of St. Clare, and the Carmelites; and a religious sisterhood.

The jurisdictions in the diocese of Guamanga, are

- I. Guamanga.
- II. Guanta.
- III. Vilcas Guaman.
- IV. Andogualas.
- V. Guanica Belica.

- VI. Angaraes.
- VII. Castillo Vineyna.
- VIII. Parina-Cocha.
- IX. Lucanas.

I. The jurisdiction of Guamanga enjoys in every part so good a temperature, that it abounds in variety of grain, fruit, and cattle, and is very populous. One part of its commerce consists in bend-leather for soles of shoes, which are cut out here. Conserves and sweetmeats are here made in great quantity.

II. The jurisdiction of Guanta, which lies north-north-west of Guamanga, begins a little above four leagues from that city, and is in length about thirty leagues. It is very happy in the temperature of the climate, and fertility of the earth; but its silver mines, which were formerly very rich, are now greatly exhausted. In an island formed by the river Jouxá, called in that country Tayacaxa, grows in remarkable plenty the caca already mentioned. This herb, and the lead produced from the mines of that metal in this country, are the branches of its commerce. It supplies the city of Guamanga with great part of its corn and fruits.

III. South-east of Guamanga, and between six and seven leagues from that city, is Vilcas Guaman, which extends above thirty leagues. The greatest part of this country lying in a temperate air, besides a sufficiency of corn and fruits, and esculent vegetables, has very fine pastures, in which are bred vast quantities of cattle of all kinds. The Indians in the towns of this jurisdiction apply themselves to weaving bays, corded stuffs, and other branches of the woollen manufactory, which are carried to Cusco, and other provinces; but this trade is rendered very laborious by the great distance of the several places. Here is still remaining a fort built by the old Indians, and resembles that already described, near the town of Cannar; at the town of Vilcas Guaman was another, very famous, but taken down in order to erect a church with the stones.

IV. East, a little inclining to the south of Guamanga, is Andogualas, extending eastward along an intermediate space between two branches of the Cordillera, above twenty miles, having the advantage of being watered by several small rivers. Its climate is partly hot, and partly temperate, so that the soil, being watered by these streams, produces all kinds of fruits and grain in great plenty, especially maize, wheat, and sugar-canes. This province is one of the most populous in all those parts; in it the gentry of Guamanga have large sugar plantations.

V. The government of Guanica Belica begins thirty leagues north of Guamanga. The town which gives name to this government was founded on account of the famous rich quicksilver mine; and to the working it, the inhabitants owe their whole subsistence, the coldness of the air checking the growth of all kinds of grains and fruits, so that they are obliged to purchase them from their neighbours. The town is noted for a water where such large petrifications are formed, that the inhabitants use them in building houses, and other works. The quicksilver mines wrought here supply with that necessary mineral all the silver-mines of Peru; and notwithstanding the prodigious quantities already extracted no diminution is perceived. Some attribute the discovery of these mines to a Portuguese, called Henrique Garces, in the year 1566, who accidentally met an Indian with some pieces of cinnabar, called by the Indians, Ilimpi, and used in painting their faces. But others, among whom are Acosta, Laett, and Escalona, say that the mines of Guanica Belica were discovered by a Navincopa, or Indian, and ser-

vant to Amador Cabrera; and that before the year 1564, Pedro Contreras and Henrique Garces had discovered another mine of the same kind at Patas. But however it be, the mines of Guanica Belica are the only ones now worked; and the use of quicksilver for aggregating the particles of silver began in the year 1571, under the direction of Petro Fernandes Velasco. The mines of Guanica Belica immediately on the discovery were claimed in the King's name, and alternately governed by one of the members of the audiencia of Lima, with the title of superintendant, whose office expired at the end of five years, till in the year 1735, when Philip V. appointed a particular governor of these mines, with the same title of superintendant, but thoroughly acquainted with the nature of extracting this mineral, having been employed in those of the same nature in Spain; and by his economy the mines are worked with less charge, and will not be so soon exhausted. Part of the quicksilver found here is sold on the spot to the miners, and the remainder sent to all the royal offices in the kingdom of Peru, for the more commodious supply of those whose mines are at a great distance.

VI. The jurisdiction of Angaraes depends on the government of Guanica Belica, and begins about twenty leagues west-north-west of the city of Guamanga. Its territories reach above twenty leagues; its air is temperate, and it abounds in wheat, maize, and other grains and fruits, and also breeds vast droves of cattle of all kinds.

VII. West of the city of Guamanga is the jurisdiction of Castio Vinayna. In some parts this province extends above thirty leagues, and has such a variety of temperatures, that it produces every kind of grain and fruits. The heaths, which are the coldest parts, are frequented by a kind of sheep called Vicunna, whose wool is the most considerable article of its commerce. This animal was also common in the provinces of Jouxá, Guanuco, and Chuquiabo, till the conquest of those countries, when every one hunted them at pleasure for the sake of their wool, without restraint from the government, they became, as it were, exterminated in those parts; now they are only to be found on the summits of mountains or the coldest heaths, where they are not caught without great difficulty.

VIII. About twenty leagues south of the city of Guamanga, is the jurisdiction of Parina-Cocha, which reaches about twenty-five leagues, and lies principally in so temperate an air, that the soil, besides excellent pastures, abounds in grain and fruits. It has also several mines both of silver and gold, which now produce more considerably than heretofore. These valuable metals make the chief branch of its active commerce, its passive being the same as in the following jurisdiction.

IX. The jurisdiction of Lucanas begins about twenty-five or thirty leagues south-west of Guamanga. Its temperature is cold and moderate. The parts of the former breed large droves of all sorts of cattle; and those of the latter are fertile in grain, herbs, and fruits. It also abounds in valuable silver mines, in which chiefly the riches of Peru consist, and by that means made the center of a very large commerce; great numbers of merchants resorting hither with their goods, and others for purchasing such provisions as their own countries do not afford, for which they give in exchange ingots and pinnas of silver.

### III. Diocese of the Audience of Lima. — Cusco.

Of all the cities in Peru, Cusco is the most ancient, being of the same date with the vast empire of the Yncas. It was founded by the first Ynca Mango Capac, as the seat and capital of his empire. Having peopled it with the first Indians who voluntarily submitted to him, he divided it into two parts, which he called High and Low Cusco, the former having been peopled by Indians which the emperor himself had assembled,

and the latter by those whom his consort Mama-Oello had prevailed upon to leave their wandering manner of life. The first forms the north, and the latter the south part of the city. The houses originally were low and small like cottages; but as the empire increased, they assumed a new appearance; so that when the Spaniards landed in these parts, they were astonished at the largeness and splendour of the city, especially the magnificence of the temple of the sun, the grandeur of the palaces of the Ynca, and the pomp and richness becoming the seat of so vast an empire. It was in the month of October 1534, when Don Francisco Pizarro entered and took possession of it in the name of Charles V. Emperor and King of Spain. This was followed by a siege of the Ynca Mango, who laid great part of it in ashes, but without dislodging the Spaniards.

This city stands in a very uneven situation on the sides of the mountains, there being no other more convenient near it. On a mountain contiguous to the north part of the city are the ruins of that famous fort built by the Yncas for their defence; and it appears from thence, that the design was to inclose the whole mountain with a prodigious wall, of such construction as to render the ascent of it absolutely impracticable to an enemy, and, at the same time, easily to be defended by those within; in order to prevent all approach to the city. This wall was entirely of free-stone, and strongly built, like all the other works of the Yncas, already described, but still more remarkable for its dimensions and the largeness of the stones, which are of different magnitudes and figures. Those composing the principal part of the work are of such prodigious dimensions, that it is difficult to imagine how it was possible for the strength of man, unassisted by machines, to have brought them hither from the quarries. The interstices formed by the irregularities of these enormous masses are filled with smaller, and so closely joined, as not to be perceived without a very narrow inspection. One of these large stones is still lying on the ground, and seems not to have been applied to the use intended, and is such an enormous mass, that it is astonishing to human reason to think by what means it could be brought thither. It is called La Canfada, or the Troublesome, alluding probably to the labour of bringing it from the quarry. The internal works of this fortress consist of apartments, and two other walls are chiefly in ruins, but the outward wall is standing.

The city of Cusco is nearly equal to that of Lima. The north and west sides are surrounded by the mountain of the fortress, and others called Sanca: on the south, it borders on a plain, on which are several beautiful walks. Most of the houses are of stone, well contrived and covered with tiles, whose lively red gives them an elegant appearance. The apartments are very spacious, and finely decorated, the inhabitants being noted for their elegant taste. The mouldings of all the doors are gilt, and the other ornaments and furniture answerable.

The cathedral of Cusco, both with regard to materials, architecture, and disposition, greatly resembles that of Lima, but is a much smaller structure. It is built entirely of stone, and the architecture is even thought to exceed it. The sacristy is called Nuestra Senora del Triunpo, being the place where the Spaniards defended themselves from the fury of the Indians, when surrounded by the army of the Ynca Mango; and, though the whole city was several times set on fire, the flames had no effect on this part; which was attributed to the special protection of the Holy Virgin. It is served by three priests, one in particular for the Indians of the parish, and the other two for the Spaniards. Besides this, Cusco also contains eight other parishes; namely,

I. Belin.—II. The church of the general hospital, which has also its priest and its parish.—III. Santa Anna.—IV. Santiago.—V. San Blas.—VI. San Christoval.—VII. San

San Sebastian.—VIII. San Geronymo. And though the first of the two last be a league, and the second two leagues from the city, they are reckoned among the number of its parishes.

Here is also a convent of Dominicans, the principal walls of which were formerly those of the temple of the sun, and at present the high altar stands in the very place where once was a golden image of that planet. There is likewise at Cusco a convent of Franciscans, which is the head of that order in this province. The convents of the Augustines and the fathers of Mercy in this city, are also the principal of their respective orders. The Jesuits have likewise a college here. The convent of St. Juan de Dios and that of the Bethlehemites, which are both very large, are hospitals for the sick; the latter is particularly appropriated to the Indians, who are there used with the greatest care and tenderness. The nunneries are those of St. Clare, St. Catherine, the barefooted Carmelites, and a Nazarene sisterhood.

The government of this city consists of a corregidor, placed at the head of the magistrates, who are the chief nobility; and out of these are annually chosen two ordinary alcaldes, according to the custom of all the cities in South America. The members of the cathedral chapter besides the bishop, are five dignitaries, namely, the dean, archdeacon, chanter, rector, and treasurer; two canons by competition, a magistral, and penitentiary; three canons by presentation, and two prebendaries. Here are three colleges; in the first, called St. Anthony, a seminary for the service of the cathedral, are taught Latin, the sciences, and divinity. The second is under the direction of the Jesuits, where these fathers instruct youths of fortune. The third, called St. Francis de Borja, belongs also to the Jesuits, and is appointed for the education of the sons of caciques, or Indian princes. The two former confer all degrees below that of doctor, and have been erected into universities.

Among the courts of justice, is one for the revenue, consisting of two judges. Here is also a court of inquisition, and of the croisade; together with the same offices as in the other large cities already described. Formerly this city was very full of Spaniards, and among them many noble families; but, at present, its inhabitants are very much declined.

#### Jurisdications in the Diocese of Cusco:

- |                            |                                    |
|----------------------------|------------------------------------|
| I. Cusco.                  | VIII. Canas, and Cances, or Tinta. |
| II. Quispicanchi.          | IX. Aymaraes.                      |
| III. Avancay.              | X. Chumbi-Vilcas.                  |
| IV. Paucartambo.           | XI. Lampa.                         |
| V. Colcaylares.            | XII. Carabaya.                     |
| VI. Chilques, and Masques. | XIII. Afangaro, and Afilo.         |
| VII. Cotobamba.            | XIV. Apolo-Bamba.                  |

I. The jurisdiction of Cusco extends two leagues; the temperature of air is various, but both the heat and cold very supportable, except in some parts where the cold is intense: these, however, afford good pasture for all kinds of cattle, whilst the valleys produce plenty of grain and fruits.

II. The jurisdiction of Quispicanchi begins, as it were, at the south gates of Cusco, stretching from east to west about twenty leagues. The lands belong, in general, to the gentry of Cusco, and produce plenty of wheat, maize, and fruits. Here are also manufactories of bays, and coarse woollen stuffs. Part of this province borders on the forests

forests inhabited by wild Indians, and produces great quantities of coca, which forms one of the principal branches of its commerce.

III. Four leagues north-east from the city of Cusco, begins the jurisdiction of Avancay, and extends above thirty leagues; the air differing in temperature according to the situation of its parts; but it is in general rather hot than temperate, and, accordingly, many parts of it are taken up with large plantations of canes, which yield a very rich sugar. The lands where the air is more temperate, abound in wheat, maize, and fruits, part of which are sent to the city of Cusco. In this province is the valley Xaquijaguana, corruptly called Xajaguana, where Gonzalo Pizarro was defeated and taken prisoner by Pedro de la Gasca.

IV. Paucartambo begins eight leagues east of Cusco, and is of a considerable extent. This province produced, in the time of the Yncas, the greatest quantity of coca, with which it carried on a very profitable commerce; but is greatly declined since this shrub has been planted in other provinces. The soil is equally fertile in other products.

V. The jurisdiction of Calcaylares begins four leagues west of the city of Cusco. The air every where excels that of all other provinces, and accordingly produces an exuberance of all kinds of grain and fruits. In the hottest parts called Lares, were formerly very large plantations of sugar-canes, but for want of hands to cultivate them, they are at present so diminished, that instead of sixty or eighty thousand arobas, which they annually produced in the time of their prosperity, they are now reduced to something less than thirty; but the sugar is of such an excellent kind, that without any other preparation than that of the country, it is equal both in colour and hardness to the refined sugar of Europe. This diminution of its sugar has greatly lessened the principal branch of its commerce.

VI. South-east of Cusco, and at the distance of about seven or eight leagues, begins the jurisdiction of Chilques and Masques, extending above thirty leagues in length. The temperature of the air is proportioned to the situation of its several parts, some of which are very fertile in grain, and others feed vast numbers of cows and sheep. But besides these its commerce is greatly augmented by the woollen manufactures of the Indians.

VII. South-west of Cusco, and about twenty leagues distance, begins the jurisdiction of Cotabamba, which afterwards extends above thirty leagues between the rivers Avancay and Apurimac, in which extent are different temperatures of air. It abounds in all kinds of cattle, and the temperate parts produce plenty of wheat, maize, and fruits. Here are also mines of silver and gold, the richness of which formerly rendered this province very flourishing; but, at present, their produce is greatly declined.

VIII. The jurisdiction of Canas and Canches or Tinta, begins about fifteen or twenty leagues south of Cusco, and extends about twenty leagues in every direction. The Cordillera divides it into two parts; the highest called Canas and the lowest Canches. The latter, by reason of its temperate air, yields all kinds of grains and fruits; whilst the former affords pasture for very numerous flocks and herds; and in the meadows between the eminences are fed no less than twenty-five or thirty thousand mules, brought thither from Tucuma to pasture. Here is a very great fair for these creatures, to which dealers resort from all parts of the diocese. In the part called Canas is the famous silver mine Condonoma.

IX. About forty leagues south-west from Cusco is the jurisdiction of Aymaraes, which extends thirty farther, and like the former has different temperatures of air. The lands abound in sugar, cattle, and grain; and also in mines of gold and silver, which

formerly produced large quantities of those valuable metals; but at present few of them are wrought, the country being too thinly inhabited.

X. Something more than forty leagues from Cusco, begins the jurisdiction of Chumbi Vilcas, which in some parts extends above thirty leagues, has different temperatures of air, great quantities of corn and fruits, and large herds of cattle; together with some mines of silver and gold.

XI. The jurisdiction of Lampa begins thirty leagues south of Cusco, and is the principal of all the provinces included under the name of Callao. Its plains are interrupted with small hills, but both abound in good pasture; and accordingly this province is particularly remarkable for its quantity of cattle, with which it carries on a very profitable trade; but the air being every where cold, the only fruits of the earth are papas and quincas. Another very considerable advantage are its silver mines, being very rich, and constantly worked.

XII. The jurisdiction of Carabaya begins sixty leagues south-east of Cusco, and extends above fifty leagues. The greatest part of it is cold, but the valleys so warm as to produce coca, and abounds in all kinds of fruits, grain, and pulse, together with sufficient pastures for cattle of all kinds. Here are several gold mines, and the two famous lavatories, called Lavaderos de San Juan del Oro, and Pablo Coya; also that of Monte de Ananea, two leagues from the town of Poto, where there is an office for collecting the quintos or fifth, belonging to the king. In this province also is a river, which separates it from the mountains of the wild Indians, and is known to abound so greatly in gold, that at certain times the caciques send out a certain number of Indians in companies from the towns in their respective districts to the banks of this river, where by washing the sands in small wells they dig for that purpose, they soon find a sufficient quantity of gold to pay the royal tribute. This kind of service they call chichina. This province has also mines of silver, which produces vast quantities of that metal. In 1713 was discovered in the mountain of Ucuntaya a vein or stratum nearly of solid silver, which, though soon exhausted, yielded some millions, and hopes have been conceived from it of meeting with others, whose riches will be of longer continuance. This jurisdiction is also famous for the gold mine called Aporama, which is very rich, and the metal twenty-three carats fine.

XIII. The jurisdiction of Asangaro and Afilo, which lies about fifty leagues south of Cusco, is every where cold, and consequently proper only for breeding cattle, in which, however, it carries on a very profitable trade. In the north-east parts which border on those of Carabaya, are some silver mines, but a few of them only are worked. Some of its lands produce plenty of those roots and grains which naturally flourish in a cold air, as papas, quinoas, and canaguas; of the two last the natives make chicha in the same manner as it is made with maize. This jurisdiction belongs to the audience of Charcas.

XIV. About sixty leagues from Cusco, on the borders of the Moxos, which are missions of the Jesuits, are others called Apolo-bamba, belonging to the Franciscans. These consist of seven towns of Indians newly converted, and who having received the doctrine of the gospel, have abandoned the savage manner in which they formerly lived. In order to render the missionaries more respected by the Indians, and at the same time to defend the latter from the insults of their idolatrous brethren, a major general is posted here, who is both a civil and military officer, administering justice, and commanding in chief the several bodies of militia formed by the inhabitants of these towns and villages.

## IV. Diocese of the Audience of Lima. — Arequipa.

The city of Arequipa was founded in 1539 by order of Don Francisco Pizarro, in a place known by the same name: but this situation being found very disadvantageous, the inhabitants obtained permission to remove it to the valley of Quilca, where it at present stands, about twenty leagues distant from the sea. The lands in its dependency having been united to the empire of the Yncas by Maita Capac, the goodness of the soil and the purity of the air, induced that monarch, for the farther improvement of the country, to draw three thousand families from such adjacent provinces as were less fertile, and with these to peopple four or five towns.

This city is one of the largest in all Peru, delightfully situated in a plain, and the houses well built of stone, and vaulted. They are not all of an equal height, though generally lofty, but commodious, finely decorated on the outside, and neatly furnished within. The temperature of the air is remarkably good: and though sometimes a small frost is seen, the cold is never excessive, nor the heat troublesome; so that the fields are always clothed with verdure and enamelled with flowers, as in a perpetual spring. The inhabitants enjoy an exemption from many diseases common to other countries, partly owing to their care in keeping the streets clean by means of canals which extend to a river running near the city; and by these all the filth of the city is swept away.

But these pleasures and advantages are allayed by the dreadful shocks of earthquakes, to which, in common with all those parts of America, it is so subject, that it has been four times by these convulsions of nature laid in ruins; besides other small shocks not attended with such terrible consequences. The first of those was felt in 1582, the second on the 24th of February 1600, which was accompanied with an eruption of a volcano called Guayna-Patina, in the neighbourhood of the city: the third happened in 1604, and the last in 1725. And though the desolation attending the three last was not so universal, yet the public buildings, and the most stately houses, were laid in ruins.

The city is very populous, and among its inhabitants many noble families, this being the place where most of the Spaniards settled, on account of the goodness of the air, and the fertility of the soil; as also for the conveniency of commerce at the port of Aranta, which is only twenty leagues distant. The civil, political, and military government of the city is executed by a corregidor, who is placed at the head of the regidores, from which are annually chosen two ordinary alcaldes.

The city of Arequipa did belong to the diocese of Cusco, till the year 1609, when it was erected into a particular bishopric on the 20th of July. The chapter, besides the bishop, consists of the five usual dignitaries, namely, the dean, archdeacon, chanter, rector, and treasurer: three canons and two prebends. Besides the sacristy, which is served by two priests for the Spaniards, the parish of Santa Martha is appropriated to all the Indian inhabitants. Here are two Franciscan convents, one of observants, and the other of recolects, both belonging to the province of Cusco; also one of Dominicans, and another of Augustines, depending on Lima; and a monastery of the fathers of Mercy, subordinate to that of Cusco. Under their respective fraternities of Lima here is also a college of Jesuits, and a convent and hospital of St. Juan de Dios. Here is a seminary for the service of the cathedral; and two nunneries; namely, one of the Carmelite and the other of St. Catharine. A third is now building for the order of Santa Rosa. There is also at Arequipa an office of revenue, under the direction

direction of an accomptant and treasurer ; together with commissaries of the inquisition and croisades, with their subalterns, as in all the other cities.

. Jurisdictions in the Diocese of Arequipa.

- |                              |               |
|------------------------------|---------------|
| I. Arequipa.                 | IV. Caylloma. |
| II. Camana.                  | V. Monquegua. |
| III. Condesuyos de Arequipa. | VI. Arica.    |

I. Arequipa comprehends the suburbs and towns in its neighbourhood, where the climate being the same as in the city, the country is perpetually covered with flowers, corn, and fruits ; while the excellence of the pastures is sufficiently evident from the numbers of fine cattle fed in them.

II. Along the coast of the South Sea, but at some distance from the shore, is the jurisdiction of Camana, which is very large, but contains many deserts, especially along the coast. Eastward it extends to the borders of the Cordillera ; so that the temperature of some parts of its jurisdiction is nearly the same with that of the former, while others are cold ; both producing grain and fruits of a corresponding nature. Its principal trade consists in asses. It has silver mines near the mountains, but of little advantage, as they are not worked.

III. North of Arequipa and thirty leagues distant from that city, is the jurisdiction of Condesuyos de Arequipa, extending about thirty leagues, with different temperatures of the air, and consequently produces grains and fruits. Here is bred the wild cochineal, with which the Indians carry on a kind of trade with those provinces where the woollen manufactures flourish. They first pulverize the cochineal by grinding, and after mixing four ounces of it with twelve of violet maize, they form it into square cakes called mango, each weighing four ounces, and sell it for a dollar per pound. This country abounds in gold and silver mines ; but they are not worked with the care and diligence of former times.

IV. At about thirty leagues east from the city of Arequipa, begins Caylloma, famous for a mountain of the same name, and the silver mines it contains. Though these mines have been long discovered and constantly and industriously worked, their produce is still so inconsiderable, that in the principal village, called by the same name, there is a governor and office appointed for receiving the king's fifths, and vending the quicksilver used in separating the metal from the ore. The cold in the greatest part of the country is so intense, that the inhabitants are obliged to have recourse to the neighbouring provinces for the fruits of the earth. Even the declivities of mountains and valleys produce but little. In some parts of this province are wild asses, like those already mentioned.

V. The jurisdiction of Monquegua lies about forty leagues south of the city of Arequipa, and sixteen from the coast of the South Sea. The principal town, which bears the same name, is inhabited by Spaniards, and among them several noble and opulent families. This jurisdiction extends at least forty leagues in length, and in a happy climate, adorned with large vineyards, from the produce of which great quantities of wine and brandy are made ; these constitute its whole commerce, supplying all the provinces bordering on the Cordilleras as far as Potosi, by land carriage ; while they are exported by sea to Callao, where they are greatly valued. Here are also papas and olives.

VI. The

VI. The last jurisdiction of this diocese is Arica, which extends along the coast of the South Sea. Besides the heat, and inclemency of the air, the greatest part of the country is barren, producing only aji, or Guinea-pepper, from which alone it derives a very advantageous trade, as may easily be imagined from the vast consumption of it in all these parts of America. Accordingly the dealers in this commodity resort thither from the provinces on the other side of the mountains, and by computation, the annual produce of these plantations amounts to no less than 600,000 dollars per annum. The pods of this pepper are about a quarter of a yard in length, and when gathered are dried in the sun, and packed up in bags or rushes, each bag containing an aroba, or quarter of a hundred weight; and thus they are exported to all parts of the kingdom, and used as an ingredient in most of their dishes. Other parts of this jurisdiction are famous for vast quantities of large and excellent olives, far exceeding the finest produced in Europe, being nearly as large as a hen's egg. They extract some oil from their olives, and find a good market for it in the provinces of the Cordillera; others are pickled, and some, together with a small quantity of oil, exported to Callao.

### CHAP. XIII. — *Of the Audience of Charcas.*

THE province of Charcas, in the extent of its jurisdiction, is equal to that of Lima; but with this advantage, that many of its parts are not so well inhabited, some being full of vast deserts and impenetrable forests; while others are full of vast plains, intercepted with the stupendous heights of the Cordilleras, so that it is inhabited in those parts only which are free from these inconveniences. The name of Charcas formerly included many populous provinces of Indians, whom the Ynca Capac Yupanqui subjected to his empire; but he carried his arms no farther than the provinces of Tutyra and Chaqui, where he terminated his conquests towards Callafuyo. On the death of this monarch, his son, Ynca Roca, the sixth in the succession of those emperors, pushed his conquests farther in the same part, till he became sovereign of all the intermediate nations to the province of Chuquisaca, where was afterwards founded the city of Plata, at present the capital of the whole province of Charcas. Its jurisdiction begins on the north side, at Vilcanota, belonging to the province of Lampa in the diocese of Cusco, and reaches southward to Buenos Ayres. Eastward it extends to Brasil, being terminated by the meridian or demarcation; and westward part of it reaches to the South Sea, particularly at Atacama, the most northern part of it on this side. The remainder of Charcas borders on the kingdom of Chili. These vast tracts of the land give one archbishop, and five bishops his suffragans, namely,

The archbishop of Plata.

Bishoprics :

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|------------------------------|------------------|
| I. La Pas.                   | IV. Paraguay.    |
| II. Santa Cruz de la Sierra. | V. Buenos Ayres. |
| III. Tucuman.                |                  |

Archbishopric of the Audience of Charcas, or Chuquisaca. — La Plata.

The Spaniards having conquered all the provinces between Tumbez and Cusco, and quelled the tumults formed among the conquerors themselves, turned their thoughts  
on

on reducing the more remote nations. Accordingly in the year 1538, Gonzalo Pizarro, and other commanders, marched from Cusco at the head of a large body of troops, and, advancing as far as Charcas, were opposed by the nations inhabiting this country, and the Carangues, with such vigour, that it was not till after several obstinate battles that they submitted. But their resistance did not equal that made by the Chuquifacans; for Pizarro having, after several actions, penetrated to their principal town, they besieged him in it, and the danger was so great, that without the speedy succours sent him from Cusco by his brother the Marquis Don Francisco Pizarro, the few Spaniards who survived the former actions would have been all cut off. But on the arrival of this reinforcement, among which were a great number of volunteers of distinction, he routed the Indians, who, being no longer able to continue the war, submitted, and acknowledged the sovereignty of the King of Spain. In the following year 1539, Pizarro, convinced of the importance of making a strong settlement there, commissioned Captain Pedro Anzures to build a town, which was accordingly done on the site of that of Chuquifaca, and great numbers of those who had shared in the conquest, continued there in order to subdue the other contiguous nations. This town they called Plata, alluding to the silver mines of the mountain of Porco in its neighbourhood, and from which the Yncas received great quantities of silver, keeping in pay a proper number of Indians for working them; but the primitive name of Chuquifaca has prevailed, and is now commonly used. This city stands in a small plain environed by eminences which defend it from the winds. The temperature of the air in summer is very mild; nor is there any considerable difference throughout the year; but in the winter, which here begins in September and continues till March, tempests of thunder and lightning are very common, and the rains of long continuance; but all the other parts of the year the atmosphere is bright and serene. The houses both in the great square and those adjoining to it have one story besides the ground floor. They are covered with tiles, are very roomy and convenient, with delightful gardens planted with the fruits of Europe. But water is so scarce that they have hardly enough to supply the necessary purposes of life: the little they have being fetched from several public fountains dispersed in different parts of the city. The inhabitants consist of Indians and Spaniards, and are said to amount to about 14,000.

The cathedral is large, and divided into three aisles, of good architecture, and finely adorned with paintings and gildings. The parish is served by two priests, one for the Spaniards, and the other for the Indians. Here is also another parish called St. Sebastian, situated at one end of the city, and is appropriated to the Indians living within its precinct, who are thought to be about three thousand. The convents are those of the Franciscans, Dominicans, Augustines, the fathers of Mercy, and a college of Jesuits; all spacious buildings with splendid churches. Here is also a conventual hospital of St. Juan de Dios, the expences of which are defrayed by the King; likewise two nunneries, of the order of St. Clare, and of St. Monica.

The city of La Plata has also an university, dedicated to St. Francis Xavier, the chairs of which are filled indifferently either by secular clergy or laymen; but the rector is always a Jesuit. Here are also two other colleges in which lectures of all kinds are read. That of St. John is under the direction of the Jesuits; while the archbishop nominates to that of St. Christopher, which is a seminary.

Two leagues from Plata runs the river Cachimay along the plains, having on its banks several pleasant seats of the inhabitants; and about six in the road leading to Potosi, is the river of Philco-mayo, which is passed over by a large stone bridge.

During

During some months of the year, this river furnishes the city of Plata with great plenty of delicious fish; among which is one called the Dorado\*, which generally weighs between twenty and twenty-five pounds. The other provisions, as bread, flesh, and fruits, are brought from the adjacent provinces.

The chief tribunal in Plata is that of the audience, erected in the year 1559, and whose president has the titles of governor and captain-general of the province, exclusive of the government of Santa Cruz de la Sierra, Tucuman, Paraguay, and Buenos Ayres, which are independent, and in military cases absolute. It has also a fiscal, a protector-fiscal of the Indians, and two supernumerary auditors.

The magistracy or corporation, as in all other cities of this country, consists of regidores, who are persons of the first distinction, with the corregidor at their head, and from them are annually chosen two ordinary alcaldes, for maintaining order and the police. Plata was erected into a bishopric in 1551, the place having then the title of city; and in the year 1608, was raised to a metropolis. Its chapter consists of a dean, archdeacon, chanter, treasurer, and rector; five canons, four prebendaries, and four minor prebendaries. The archbishop and his chancellor constitute the ecclesiastical tribunal.

Here is also a tribunal of croisade, with a commissary, subdelegate, and other officers: likewise a court of inquisition subordinate to that of Lima, and an office for taking care of the effects of persons dying intestate; all established on the same foundation with those in other cities already mentioned.

The jurisdictions belonging to the archbishopric of Plata, are the fourteen following:

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|--|---------------------------|
| I. The city of Plata, and imperial town of Potosi. | VIII. Pilaya and Paspaya. |
| II. Tomina.  | IX. Cochabamba.           |
| III. Porco.  | X. Chayantas.             |
| IV. Tarija.  | XI. Paria.                |
| V. Lipes.  | XII. Carangas.            |
| VI. Amparaes.                                      | XIII. Cuacica.            |
| VII. Oruro.  | XIV. Atacama.             |

I. The jurisdiction of the city of Plata is of such prodigious extent as to include the imperial town of Potosi, which is even the continual residence of the corregidor. There also is established the office of revenue, which consists of an accountant and treasurer, with clerks; as most convenient on account of its vicinity to the mines, for taking account of the silver produced by them.

The famous mountain of Potosi, at the foot of which, on the south side, stands the town of the same name, is known all over the commercial world, as having been greatly enriched by the silver it produces. The discovery of these immense mines happened in the year 1545, by an accident seemingly fortuitous. An Indian, by some called Gualca, and by others Hualpa, pursuing some wild goats up this mountain, and coming to a part very steep, he laid hold of a small shrub in order to climb it with the greater celerity; but the shrub being unable to support his weight came up by the roots, and discovered a mass of fine silver, and at the same time he found some lumps of the same metal among the clods, which adhered to the roots. This Indian, who

\* This is a large species of the Dolphin, which, without plenty of good sauce, is very dry eating. A.

lived at Porco, hastened home with these first fruits of his discovery, washed the silver and made use of it, repairing, when his stock was near exhausted, to this perpetual fund. At length an intimate friend of his, called Guanca, observing such a happy change in his circumstances, was desirous of knowing the cause, and urged his questions with a warmth that Gualca was unable to deny. For some time they retired in concert to the mountain for fresh supplies of silver, till Gualca, refusing to discover his method of purifying the metal, Guanca revealed the whole secret to his master Villarroel, a Spaniard, who lived at Porco. Immediately on this information he went, on the 21st of April 1545, to view this fortunate breach in the mountain, and the mine was without delay worked, with immense advantage.

This first mine was called the Discoverer, as having been the occasion of discovering other sources of riches enclosed in the bowels of this mountain; for in a few days another was found equally rich, and called the Tin-mine; since that, another has been discovered, and distinguished by the name of Rica, as surpassing all the rest: and was succeeded by the Mendieta. These are the principal mines of Potosi, but there are several smaller, crossing the mountain, on all sides. The situation of the former of these mines is on the north side of the mountain, their direction being to the south, a little inclining to the west; and it is the opinion of the most intelligent miners in this country, that those which run in these directions are the richest.

On a report of these important discoveries, people from all parts retired to Potosi, particularly from the city of Plata, which is situated about twenty-five leagues from the mountains; so that at present, besides its extraordinary riches, having among its inhabitants many noble families, particularly those concerned in the mines, the circuit of the town is near two leagues. The air of the mountain being extremely cold and dry\*, renders the adjacent country remarkably barren, producing neither grain, fruits, herbs, or other esculents. The town, however, is so plentifully provided as to enjoy an abundance of every kind; and the trade for provisions is greater here than in any other place, that of Lima alone excepted. Nor will this appear at all strange if the great number of people employed in the mines be considered. Some provinces send the best of their grain and fruits; others their cattle; others their manufactures; and those who trade in European goods resort to Potosi, as to a market where there is a great demand, and no want of silver to give in exchange.

Besides this commerce, here are a set of persons called Aviadores, who find their account in advancing to the masters of the mines coined silver to pay their necessary expences, receiving in exchange silver in ingots and pinnas. Another article of great consequence, is the trade of quicksilver for the use of these mines; but this branch the crown has reserved to itself. The vast consumption of this mineral may in some measure be conceived by the great quantity of silver produced by these mines; for before the invention of extracting the silver with less mercury, a mark of that mineral was consumed in obtaining a mark of fine silver; and often by the ignorance of the workmen, a still greater quantity; but the immense consumption of quicksilver in the mines of this mountain, and the riches extracted from it, will best appear from the following accounts of two authors, who were perfectly masters of the subject. The first is that of the Rev. Alonzo Barba, parish-priest in the imperial town of Potosi, who, in a piece on metals, published in the year 1637, says, that from the year 1574, when mercury was first used here in extracting the silver, the royal office of Potosi has received above 204,700 quintals of mercury, exclusive of what had been clandestinely

\* The extremest cold in this part seldom freezes the waters thicker than a half crown.

bought by private persons, and which amounted to no small quantity. And as this was consumed in the space of sixty-three years, the annual amount is about 3,249 quintals. The second account is given us by Don Gaspar de Escalona, who, in his *Gazophilacio Perubico*, declares, from very good authority, that before the year 1638, it appeared by the public accounts, that the produce of the silver amounted to 395,619,000 dollars, which, in ninety-three years, the time it had then been discovered, amounted to 41,255,043 dollars per annum. Hence an idea may be formed of the vast commerce which has for many years been carried on in this town, and which is still like to continue for a long time; such enormous sums being annually bartered for goods sent hither, its whole trade consisting in silver extracted from this mountain; and if some diminution has been perceived in its produce, it is still very considerable.

At a small distance from Potosi, are the hot medicinal baths, called Don Diego, whither, as in other countries, some resort for health, and others for diversion.

The jurisdiction of Tomina begins about eighteen leagues south-east from the city of Plata, and borders eastward on a nation of wild Indians, called Chiriguanos. The climate is hot, and consequently its products are such as are common to hot countries. Some parts have vineyards, and in others are made considerable quantities of sugar. It abounds also in cattle and sheep. The extent in some parts is near forty leagues. The vicinity of the Chiriguanos is a continual uneasiness to the towns in this jurisdiction, and even to the city of Plata itself, they having more than once attempted to surprise it.

III. The jurisdiction of Porco begins at the west side of the town of Potosi, and about twenty-five leagues distance from the city of Plata; extending about twenty farther. The coldness of its situation occasions a scarcity of grain and fruits; but, on the other hand, it abounds in fine cattle of all sorts. In this jurisdiction is the mountain of Porco, whence it has its name, and from whose mines the Yncas, as I have already observed, extracted all the silver for their expences and ornaments; and accordingly was the first mine worked by the Spaniards after the conquest.

IV. About thirty leagues south of Plata lies the jurisdiction of Tarija, or Chicas, the greatest extent of which is about thirty-five leagues. The temperature of the air is various, being in some parts hot, and in others cold; whence it has the advantage of corn, fruits, and cattle. This country every where abounds in mines of gold and silver, and especially that part called Chocayas. Between this province and the country inhabited by wild Indians, runs the large river Tipuanys, the sands of which, being mixed with gold, are washed like those of the river Caravaga, already mentioned.

V. In the same part as the former, but with a small inclination towards the south-west, is the jurisdiction of Lipes, and extends also thirty-five leagues. The air is extremely cold, so that grain and fruit thrive very little here, but it abounds in cattle, particularly those natural to the country, as the vicuna, alpaca, or taruga, and the llama. It must, however, be observed, that these creatures are common to all the other provinces of Punas, that is, to those where the heaths and mountains are of such a height, as to render the air continually cold. Here are also mines of gold, but at present forsaken, though the remains of the old works are still visible, particularly in one of the mountains near Colcha, known by the name of Abetanis, which, in the Indian language, signifies a golden mine. That of St. Christopher de Acochala was formerly one of the most famous in all Peru for the richness of its silver mines, the metal being in some parts cut out with a chissel, but now very greatly declined; which may, in a great measure, be imputed to a want of people for working them: it

being highly probable that the same work would still produce nearly an equal quantity of that valuable metal.

VI. The jurisdiction of Amparaes begins at a little distance to the eastward of the city of Plata, and is terminated on the east by the jurisdictions belonging to the diocese of Santa Cruz de la Sierra, particularly on that of Misquepocona; and the corregidor of the province of Amparaes has the cognizance of the Indian inhabitants of Plata. Its warm parts abound in grain, particularly barley, which, together with the numerous droves of cattle in the colder parts, constitute the chief branches of its trade.

VII. North-west of Plata is the province of Oruro, whose capital San Phelipe de Austria de Oruro is thirty leagues distant from it. The greatest part of this jurisdiction is so cold as to deny it any esculent vegetables; but on the other hand it feeds numerous flocks and herds, besides great numbers of cattle peculiar to the country, as vicunas, guanacos, and llamas. Here are also many gold and silver mines; the former, though known even in the time of the Yncas, have been seldom worked; but those of silver have yielded great riches to the inhabitants of the province. They are now however, according to all appearance, under an irremediable decay, being overflowed, and all the endeavours hitherto used, in order to drain them, have proved ineffectual; so that those of any consideration at present are in the mountains of Popo, about twelve leagues from the town, which is large and very populous from the trade carried on there with the mines. It has a revenue office for collecting the fifths belonging to the crown.

VIII. The province of Pilaya and Paspaya, or Cinti, lies south of Plata, distance about forty leagues. The greatest part of its jurisdiction being among the breaches of the mountains, is the better adapted for producing all kinds of grain, pulse, and fruits; which, with the great quantity of wine made here, enable it to carry on a very lucrative commerce with the other provinces, which are not so happily situated.

IX. The province of Cochabamba lies fifty leagues south-east of Plata, and fifty-six from Potosi. Its capital is one of the most considerable cities in Peru, with regard to largeness, and the number and wealth of its inhabitants. The province in some directions extends above forty leagues. Besides the situation of the city in a most fertile plain, the whole country is so fertilized by the many rivers and streams, which every where traverse it, that this province is esteemed the granary of the whole archbishopric, and even of the diocese De la Paz. The air also is in most parts very mild and pure; and in some spots silver mines have been discovered.

X. About fifty leagues north-west from the city De la Plata, lies the province of Chayanta, extending in some parts about forty leagues. This country is very famous for its gold and silver mines. The former are indeed at present discontinued, though the ancient subterraneous passages are still open. This province is watered by the river Grande, in whose sand considerable quantities of gold dust, and grains of that metal, are found. The silver-mines are still worked to great advantage; but with regard to cattle, this province feeds no more than are barely sufficient for its inhabitants.

XI. The contiguous province to that of Chayanta, on the north-west side of Plata, and seventy leagues distant from that city, is that of Paria, the extent of which is about forty leagues. The air here is cold, so that it produces little grain, which is in some measure compensated by the great plenty of cattle of all kinds; and the cheeses made here, both from the milk of sheep and cows, are so highly esteemed, that they are sent into every part of Peru: it has also some silver-mines. The name of this province is derived from a very large lake, being an arm of that prodigious collection of waters called Titi-caca, or Chucuito.

XII. The

**XII.** The province of Carangas begins seventy leagues west from the city of Plata, and extends above fifty leagues. The climate of this jurisdiction is so cold, that the only esculent vegetables here are the papa, quinoa, and canagua; but it abounds in cattle. Here are a great number of silver-mines constantly worked; among which that named Turco is very remarkable for a sort of ore termed by miners machacado; the fibres of the silver forming an admirable intertexture with the stone in which they are contained. Mines of this kind are generally the richest. Besides this there are others in this jurisdiction, which, if not richer, are equally remarkable; and these are found in the barren sandy deserts extending towards the coast of the South Sea. And here, only by digging in the sands, are found detached lumps of silver, not mixed with any ore or stone than what adheres in some parts to the metal. These lumps are called papas, being taken out of the ground, in the same manner as that root. It is doubtless very difficult to account for the formation of these masses of silver in a barren and moveable sand, remote from any ore or mine. Two conjectures may, however, be offered. The first by admitting the continual reproduction of metals, of which there are indeed here so many evident proofs; as the matrices of gold and silver, met with in many parts of this kingdom. Nay, the very mines themselves, after being long forsaken, have again been worked with great advantage; but the skeletons of Indians found in old mines, and covered with fibres of silver, and the inward parts also full of the same metal, seem to put the matter beyond dispute. If this be admitted, it is natural to conclude, that the primordial matter of silver is first fluid, and when it has acquired a certain degree of perfection, some parts of it are filtrated through the pores of the sand, still stopping in a place proper for completing the fixation; they there form a solid congeries of silver; and being joined with those earthy particles they collected in their course to the place where they were absorbed by the pores of the sand, consolidated with the silver.

Though this conjecture be not destitute of probability, yet I am more inclined to embrace the second, as it is, in my opinion, more simple and natural. Subterraneous fires being very common in these parts of America, as I have already observed in speaking of the earthquakes, their activity is doubtless so strong as to melt any metals deposited near the places where they begin; and to communicate to them a heat sufficient for keeping them a long time in a state of fusion; and hence a portion of silver thus melted necessarily spreads, and introduces itself through the larger pores of the earth, and continues to expand itself, till, being beyond the reach of heat, it fixes, and re-assumes its former consistency, together with other heterogeneous substances collected in its passage. To this hypothesis, two objections may be offered; one, that the metal in fusion, by changing its situation, must be exposed to the cold air, and consequently soon condense. The second, that the pores of the earth being extremely minute, particularly in a sandy soil, the silver should rather be found in filaments, or fine ramifications, than in large lumps or pieces, as is really the case. To both these objections I shall endeavour to give a brief but satisfactory answer.

Before the silver begins to run from the place where it was melted, the subterraneous fire had pervaded the pores of the earth, which by the dilatation of the body of air enclosed in them, became distended; the metal immediately follows, and finding a channel sufficiently capacious for introducing itself, farther compresses the particles of the earth contiguous to those it abrades, and, consequently, continues its course without obstruction. The subterraneous fire which preceded the fusion, communicates to the earth a degree of heat sufficient to expel the cold air, so that the metal runs through it, till by degrees the heat is abated, and the metal becomes fixed. Another circumstance

which contributes to prolong the heat is, there being often no spiracle to these passages, whence the earth through which the metal flows, does soon emit the first heat it contracted from the subterraneous fire; consequently the metal will not be fixed till at a considerable distance from the place of liquidation: but the first particles of the metal being checked by the cold they have gradually contracted, those which follow flow to the same place, and there form a concreted mass, or mixed body of silver and scoria, brought with it from the original mine. It now remains that we examine whether what is actually observed in these lumps of silver, agrees with what has been advanced, in order to determine whether this opinion have a probable foundation.

These papas or lumps of silver are of a different composition from those found in the mines, having all the appearances of melted silver, as any person, a stranger to the manner of finding them, would immediately conclude. In them the silver forms a mass, and the surface is covered over with terrene particles, few or none of which are mixed with the silver; conformable to what is seen in metals melted, and suffered to cool without separating the dross. The terrene particles adhering to the silver are black, and exhibit all the marks of calcination, except that in some it is stronger than in others; and as this must happen if the lumps are formed by the fusion of the metal, it seems natural to conclude that they were really formed in this manner.

The size and figure of these lumps are very different; some weighing about two marks, and others much more; for among several which I saw at Lima, were two, one weighing sixty, and the other above one hundred and fifty marks, being a Paris foot in length; these indeed were the largest ever seen here. These lumps of silver are found in different parts of the same ground, though not often near one another. The metal in its course takes various directions, introducing itself into those places where it finds the least resistance; and as these parts are more or less capacious, the magnitude of the papa is greater or smaller,

XIII. About ninety leagues north of the city of Plata, but only forty from Paz, lies the province of Ciacica. Its capital, which has the same name, and all the places situated to the southward of it, belong to the archbishopric of Plata; but many of those to the northwards of it are in the diocese of Paz. The countries in this jurisdiction extend in some parts above a hundred leagues, and consequently the temperature is various. Some spots are very hot, and produce an exuberance of coca, which shrub alone is the source of a very considerable commerce, supplying all the mine towns from Charcas to Potosi. The leaves of this plant are packed in frails, each of which must, according to the ordinance, contain eight pounds; and its current price at Ururo, Potosi, and the other mine towns, is from nine to ten pieces of eight, and sometimes more. The colder parts feed large herds of cattle: together with vicunas, guanacos, and other wild creatures. This province has also some silver-mines, but not so many, nor so rich, as the preceding province.

XIV. Attacama is the western boundary of the audience of Charcas, extending to the South Sea; and the principal town, called also Attacama, is no less than one hundred and twenty leagues from Plata. Its jurisdiction is of a considerable extent, and a great part of it very fruitful; but intermixed with some deserts particularly towards the south, where it divides the kingdoms of Peru and Chili. On the coast in this province, there is every year a large fishery of tolo, a sort of fish common in the South Sea, with which a very great trade is carried on with the inland provinces, it being there the chief food during Lent, and the other days of abstinence.

CHAP. XIV. — *Account of the three Dioceses of La Paz, Santa Cruz de la Sierra, and Tucuman; and of their respective Provinces.*

THE province in which the present city of La Paz is situated, was formerly known by the name of Chuquiyapu, which, in the idiom of that country, is commonly thought to signify Chacra, or an inheritance of gold, and is there corruptly called Chuquiabo. Accordingly, Garcelaso pretends that Chuquiyapu signifies Lanz Capitana, or principal lance; but this is deriving it from the general language of the Yncas, and with a difference in the penultima, it not being uncommon for a word nearly alike in sound to have a very different signification in each idiom. This province was first conquered by Mayta-Capac, the fourth Ynca; and the Spaniards having afterwards taken possession of it, and quelled all disturbances, this city was founded by Pedro de la Gasca, that in the vast distance of an hundred and seventy leagues between Arequipa and Plata, there might be a settlement of Spaniards, for the improvement of commerce, and the safety and conveniency of the traders. The president Gasca committed the care of building it to Alonzo de Mendoza, with orders that it should be erected on a spot, midway between Cusco and Charcas, which are one hundred and sixty leagues from each other; and that it should be called Nuestra Senora de la Paz, in memory of the public tranquillity recently settled by the defeat and execution of Gonzalo Pizarro, and his adherents. With regard to its situation, a valley in the country called Las Pacafas, was pitched upon, on the 8th of October 1548, as a place abounding in grain and cattle, and full of Indians.

Along the valley De la Paz, flows a pretty large river, but sometimes greatly increased by torrents from the Cordillera, about twelve leagues distant from the city; but from its vicinity, great part of the country is exposed to so cold an air, as hard frosts, snow, and hail, are not uncommon; but the city itself is secured from them by its happy situation. Other parts are also so well sheltered, that they produce all the vegetables of a hot climate, as sugar-canes, coca, maize, and the like. In the mountainous parts are large woods of valuable timber, but infested with bears, tigers, and leopards; they have also a few deer: while on the heaths are found guanacos, vicunas, and llamas, with great numbers of cattle of the European species, as will be seen in the account of each respective province.

The city is of a middling size, and from its situation among the breaches of the Cordillera, the ground on which it stands is not only unequal, but also surrounded by mountains, without any other prospect than the channel of the river, and the adjacent mountains. When its river is increased, either by rains or the melting of the snow on the mountain, its current forces along huge masses of rocks, with some grains of gold, which are found after the flood has subsided. Hence some idea may be formed of the riches inclosed in the bowels of these mountains; but a more remarkable demonstration appeared in the year 1730, when an Indian, happening to wash his feet in the river, discovered a lump of gold, of so large a size, that the Marquis de Castelfuerte gave twelve thousand pieces of eight for it, and sent it to Spain, as a present worthy the curiosity of his sovereign.

This city is governed by a corregidor, under whom are regidores, and ordinary alcaldes, as in all other towns. Besides the cathedral, and the parish church Del Sagrario, where two priests officiate, here are also those of St. Barbara, St. Sebastian, and St. Peter: the religious fraternities of Franciscans, Dominicans, Augustines, the fathers of Mercy, a college of Jesuits, and a convent and hospital of St. Juan de Dios;

together

together with a nunnery of the order of the Conception, and another of Santa Teresa. Here is also a college of St. Jerom, for the education of youth, whether designed for ecclesiastical or civil employments.

In 1608, the church De la Paz was separated from the diocese of Chuquifaca, to which it before belonged, and erected into a cathedral. Its chapter, besides the bishop, consists of a dean, archdeacon, chanter, four canons, and prebendaries; but with regard to other circumstances, being the same with several cities already described, I shall proceed to the provinces in its diocese.

#### I. Bishopric of the audience of Charcas. — La Paz.

The provinces or jurisdictions in the diocese of Paz, are the six following :

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|---------------|-------------------|
| I. La Paz.    | IV. Laricaxas.    |
| II. Omasuyos. | V. Chucuito.      |
| III. Pacages. | VI. Paucar-Colla. |

I. The jurisdiction of La Paz is of no great extent, and the city is almost the only place worth notice in it. In the adjacent Cordillera is a mountain of remarkable height, called Illimani, which doubtless contains immense riches. A crag of it being some years since struck from it by a flash of lightning, and falling on a neighbouring mountain, such a quantity of gold was found in the fragments, that for some time that metal was sold at Paz, at eight pieces of eight per ounce. But its summit being perpetually covered with ice and snow, no mine has been opened in this mountain. The same we have already observed of those high mountains in the province of Quito, all attempts having been rendered abortive.

II. North-west, and almost at the gates of Paz, the jurisdiction of Omasuyos begins, and extends about twenty leagues, being bounded on the west by the famous lake of Titi-caca, or Chucuito, of which a farther account will be given in the sequel. The air here is somewhat cold, so that it produces little grain; but that deficiency is abundantly compensated by the great numbers of cattle; besides an advantageous trade for fish, carried on in other provinces by the Indians living on the borders of the lake, who are very industrious in improving that advantage.

III. Almost south-west of Paz, is the jurisdiction of Pacages, the greatest part of which being in a cold climate produces little grain or fruits: so that the inhabitants apply themselves to the breeding of cattle. This province is however very rich in silver mines, though but a small part of them are worked; and it is known from undoubted signs, that these mines were worked in the time of the Yncas. Here are also mines of talc, called jaspas blancos de Verenguela. It is of a beautiful white, and, on account of its transparency, is transported to different parts of Peru, for making panes of windows, both in churches and houses; as the stone called Tecali serves for the same uses in New Spain. In these mountains are also a great number of mines and gems, particularly one of emeralds, well known in Europe, but for some latent reasons not worked; together with quarries of different species of marble. In this province is the famous silver mine called Verenguela: and likewise the mountains of Santa Juana, Tampaya, and others, well known for the immense treasures extracted from them.

IV. Adjacent to the territories of the jurisdiction of La Paz, and to the north of that city, is the province of Laricaxas, which extends one hundred and eighteen leagues from east to west, and about thirty from north to south. The temperature of the air is different in different parts, and some of its products are the same with those  
of

of Carabaya, by which it is terminated to the northward. This whole province abounds in gold mines, whose metal is of so fine a quality, that its standard is twenty-three carats, and three grains. In this province is the celebrated mountain of Sunchuli, in which about fifty years since was discovered a gold mine remarkably rich, and of the standard above-mentioned; but when in its highest prosperity, it was unfortunately overflowed; and notwithstanding prodigious sums were expended in endeavours to drain it, all the labour and expence, from the works being injudiciously conducted, were thrown away.

V. The jurisdiction of Chucuito begins about twenty leagues west of Paz, and some part of it bordering on the lake of Titi-caca, that collection of waters is also called the lake of Chucuito. The extent of this province from north to south is betwixt twenty-six and twenty-eight leagues. Its temperature is in general cold and very disagreeable, the frosts continuing one half of the year, and the other either snow or hail is continually falling. Accordingly the only esculent productions of the vegetable kingdom are the papas and quinoas. The inhabitants have however a very beneficial trade with their cattle, which abound in this jurisdiction, by salting and drying the flesh. The traders who carry it to the coast exchange it for brandy and wine; and those who go to Cochabamba carry also papas and quinoas, which they barter for meal.

All the mountains in this province have their silver-mines, and formerly produced largely, but at present are totally abandoned.

The territories of the province of Chucuito are on one side bounded by the lake of Titi-caca, the magnitude of which merits some account to be given of it. This lake lies between these provinces, comprehended under the general name of Calloa, and is of all the known lakes of America, much the largest. Its figure is somewhat oval, inclining nearly from north-west to south-east its circumference is about eighty leagues, and the water, in some parts, seventy or eighty fathoms deep. Ten or twelve large rivers, besides a great number of smaller streams, empty themselves into it. The water of this lake, though neither bitter or brackish, is turbid, and has in its taste something so nauseous that it cannot be drank. It abounds with fish, of two opposite kinds; one large and palatable, which the Indians call Suchis; the other small, insipid and bony, termed long since by the Spaniards Boyas. It has also a great number of geese and other wild fowl, and the shores covered with flags and rushes, the materials of which the bridges are made, and of which an account will be given in the sequel.

As the western borders of this lake are called Chucuito, so those on the east side are distinguished by the name of Omascuyo. It contains several islands, among which is one very large, and was anciently one mountain, but since levelled by order of the Yncas; it, however, gave to the lake its own name of Titi-caca, which, in the Indian language, signifies a mountain of lead. In this island the first Ynca Mancho-Capac, the illustrious founder of the empire of Peru, invented his political fable, that the sun, his father, had placed him, together with his sister and consort, Mama Oello Huaco, there, enjoining them to draw the neighbouring people from the ignorance, rudeness, and barbarity in which they lived, and humanize them by customs, laws and religious rites dictated by himself; and in return for the benefits resulting from this artful stratagem, the island has, by all the Indians, been considered as sacred; and the Yncas determining to erect on it a temple to the sun, caused it to be levelled, that the situation might be more delightful and commodious.

This was one of the most splendid temples in the whole empire. Besides the plates of gold and silver with which its walls were magnificently adorned, it contained an immense collection of riches, all the inhabitants of provinces which depended on the empire,

empire, being under an indispensable obligation of visiting it once a year, and offering some gift. Accordingly they always brought, in proportion to their zeal or ability, gold, silver, or jewels. This immense mass of riches, the Indians, on seeing the rapacious violence of the Spaniards, are thought to have thrown into the lake; as it is certainly known, they did with regard to a great part of those at Cusco, among which was the famous golden chain made by order of the Ynca Huayna Capac, to celebrate the festival of giving name to his eldest son. But these valuable effects were thrown into another lake, six leagues south of Cusco, in the valley of Orcos; and though numbers of Spaniards, animated with the flattering hopes of such immense treasures, made frequent attempts to recover them, the great depth of the water, and the bottom being covered with slime and mud, rendered all their endeavours abortive. For notwithstanding the circuit is not above half a league, yet the depth of water is in most places not less than twenty-three or twenty-four fathoms.

Towards the south part of the lake Titi-caca, the banks approach each other, so as to form a kind of bay, which terminates in a river called El Defaguadero, or the drain, and afterwards forms the lake of Paria, which has no visible outlet; but the many whirlpools sufficiently indicate that the water issues by a subterraneous passage. Over the river Defaguadero is still remaining the bridge of rushes, invented by Capac Yupanqui, the fifth Ynca, for transporting his army to the other side, in order to conquer the provinces of Collasuyo. The Defaguadero is here between eighty and a hundred yards in breadth, flowing with a very impetuous current under a smooth, and, as it were, a sleeping surface. The Ynca, to overcome this difficulty, ordered four very large cables to be made of a kind of grass which covers the lofty heaths and mountains of that country, and called by the Indians ichu; and these cables were the foundation of the whole structure. Two of these being laid across the water, fascines of dry juncia and totora, species of rushes, were fastened together, and laid across them. On these the two other cables were laid, and again covered with the other fascines securely fastened, but smaller than the first, and arranged in such a manner as to form a level surface; and by this means he procured a safe passage to his army. This bridge, which is about five yards in breadth, and one and a half above the surface of the water, is carefully repaired, or rebuilt every six months, by the neighbouring provinces, in pursuance of a law made by that Ynca, and since often confirmed by the Kings of Spain, on account of its prodigious use; it being the channel of intercourse between those provinces separated by the Defaguadero.

VI. The last jurisdiction of this bishopric is that of Paucar-Colla, whose capital is the town of Puno. Its jurisdiction southward borders on that of Chucuito, and has the same temperature: consequently is obliged to have recourse to other provinces for the greatest part of its grain, and esculent vegetables; but abounds in all kinds of cattle, both of the European and American kinds. The Indians of the town weave bags with their wool, and sell them to great advantage. The mountains in this province contain several silver mines, and among the rest the famous Laycacota, which formerly belonged to Joseph Salcedo, and where the metal was often cut out of the mine with a chissel; but its prodigious richness accelerated the death of its owner, soon after which the waters broke into it; nor has any labour and expence been able to drain it, so that it is at present abandoned. Few of the rest are worked, the general case with almost all the silver-mines in this audience, especially of those in the archbishopric of Charcas, and this diocese of La Paz.

## II. Bishopric in the Audience of Charcas. — Santa Cruz de la Sierra.

The province of Santa Cruz de la Sierra is a government and captain-generalship : and though its jurisdiction is of a large extent, not many Spaniards are found in it, and the few towns are in general missions comprehended under the common name of Paraguay missions. The capital of the same name was erected into a bishopric in the year 1605. Its chapter consists only of a bishop, dean, and archdeacon, having neither canons, prebendaries, or other dignitaries. The usual residence of the bishop is the city of Misque Pocona, eighty leagues from Santa Cruz de la Sierra.

The jurisdiction of Misque Pocona reaches above thirty leagues ; and although the city itself is very thinly inhabited, there are, in other parts of it, several populous towns. The temperature is hot, but not in a degree too great for vineyards. The valley in which the city stands is about eighty leagues in circumference, and produces all kinds of grain and fruits ; and the woods and uncultivated mountains afford great quantities of honey and wax, which constitute a principal branch of its commerce.

The missions belonging to the Jesuits in the parts dependent on this bishopric, are those called Indios Chiquitos, or little Indians, a name given them by the Spaniards, on account of the great smallness of the doors of their houses. Their country lies between Santa Cruz de la Sierra, and the lake Xarayes, from whence the river Paraguay had its rise, and being increased by the conflux of others, forms the famous river De la Plata. It was about the close of the last century, when the fathers first began their preaching in this nation, and so great has been their success, that in the year 1732, they had formed seven towns, each consisting of above six hundred families ; and were then building others for assembling under the same laws, the great number of Indians, daily converted. These Indios Chiquitos are well made and active ; and their courage has often been experienced by the Portuguese, who used to make incursions, in order to carry off the inhabitants for slaves : but the valour of these people has taught them to desist from such inhuman attempts, and, for their own safety, to keep within their limits. The arms of these Indians are muskets, sabres, and poisoned arrows. Though their language is different from that of the other nations of Paraguay, the same customs nearly obtain here, as among all the other Indians.

Bordering on this nation of Chiquitos is another of Pagan Indians, called Chiriguanoes, or Chiriguanaes, who have always refused to listen to the missionaries ; though the fathers still continue to visit them at certain times, and preach to them, but prudently take care to be accompanied with some Chiquitos for their security ; and thus they make now and then a few converts, who are sent to their towns, and there lead a social life. This generally happens after some misfortune in the wars continually carried on between them and the Chiquitos ; when, in order the more easily to obtain a peace, and that the Chiquitos may not absolutely exterminate them, they send for missionaries ; but soon dismiss them again, pretending that they cannot bear to see punishments inflicted on persons merely for deviating from the rules of reason. This plainly demonstrates, that all they desire or aim at, is an unbounded licentiousness of manners.

Santa Cruz de la Sierra, the capital of this government, lies eighty or ninety leagues east of Plata. It was originally built something farther toward the south-east, near the Cordillera of the Chiriguanoes. It was founded in the year 1548, by Captain Nuflo de Chaves, who called it Santa Cruz, from a town of that name near Truxillo in Spain, where he was born. But the city having been destroyed, it was built in the

place where it now stands. It is neither large nor well built, nor has it any thing answerable to the promising title of city.

### III. Bishoprick of the Audience of Charcas.—El Tucuman. •

Tucma, by the Spaniards called Tucuman, lies in the centre of this part of America, beginning south of the Plata, beyond the towns of Chicas, which furnish Indians for the mines in Potosi. On the east it borders on Paraguay and Buenos Ayres; reaches westward to the kingdom of Chilio, southward to the Pampas or plains belonging to the land of Magellan. This country, though united to the empire of the Yncas, was never conquered by them; having, when Vira Cocha the eighth Ynca had made himself sovereign in Charcas, sent a deputation of their chiefs, with a request of being admitted among the number of his subjects, and that he would be pleased to send them governors, that their country might partake of the benefits of those wise laws, and useful improvements, he had introduced into all the parts of his empire.

The Spaniards having penetrated into Peru, and finished the conquest of far the greatest part of that empire, proceeded to that of Tucuman in 1549, under the conduct of Juan Nunez de Prado, whom the president Pedro de la Gasca intrusted with the conduct of this expedition. He had, indeed, no opportunity of displaying his military talents; for the inhabitants, being of a mild and easy disposition, readily submitted; on which, the following four cities were built in that country, namely, Santiago del Estero, so called from a river of the same name on which it was built, and whose inundations greatly contribute to increase the fertility of the soil; it stands above one hundred and sixty leagues south of Plata: San Miguel del Tucuman, twenty-five or thirty leagues west of the former: Nuestra Senora de Talavera, something more than forty leagues north-west of Santiago. The fourth was called Cordova de la Nueva Andalucia, and is above eighty leagues south of Antiago.

The territories of this government being of such extent, that they reach from north to south above two hundred leagues, and little short of a hundred in some parts from east to west, it was judged proper to increase the number of Spanish settlements; and, accordingly, orders were given for building two other cities, which are Rioja, about eighty leagues south-west of Santiago, and Santa, between sixty and seventy leagues north-west of the same city; together with a village called San Salvador, or Xuxui, about twenty leagues north of Salta. But all these places are small, and built without either order or symmetry. The governor, notwithstanding Santiago was the first, resides at Salta; and even the bishop and his chapter at Cordova, which is the largest. The others have their respective corregidors, under whom, also, are the Indian villages, within the dependencies of their proper cities. But of these there is no great number, the principal part of the country not being inhabitable, either from a want of water, or from their being covered with impenetrable forests. This want of inhabitants is also greatly owing to the cruelties and ravages of the savage Indians, in their frequent incursions.

The episcopal church of Tucuman, which, as we have already observed, is in Cordova, was in the year 1570 erected into a cathedral, and its chapter now consists of the bishop, dean, archdeacon, chanter, rector, and treasurer, who is elected; but has neither canons nor prebendaries.

Those parts of the country which are watered by the rivers, are so remarkably fertile in grain and fruits, that they produce sufficient for the common consumption of the inhabitants. The woods abound in wild honey and wax, whilst the hot parts produce

sugar and cotton; the last is manufactured here, and, with the woollen stuffs also wove by the inhabitants, form an advantageous branch of trade. But its great article consists in the mules bred in the luxuriant pastures of its valleys. Inconceivable droves of these creatures are sent to all parts of Peru, the Tucuman mules being famous over these countries, far exceeding all others in strength and docility.

CHAP. XV. — *Account of Paraguay and Buenos Ayres; the two last Governments of the Audience of Charcas.*

IV. Bishopric of the Audience of Charcas.—Paraguay.

THE government of Paraguay lies south of Santa Cruz de la Sierra, and east of Tucuman. Southward it joins to that of Buenos Ayres; and is terminated eastward by the captainship of St. Vicente in Brazil, whose capital is the city of St. Pablo. These countries were first discovered by Sebastian Gaboro, who, coming to the river of Plata in the year 1526, sailed up the river Palana in some small bark, and thence entered that of Paraguay. He was succeeded in 1536 by Juan de Ayolos, to whom Don Pedro de Mendoza, the first governor of Buenos Ayres, had given a commission, together with a body of troops, military stores, and other necessaries; and afterwards, by his orders, Juan de Salinas founded the city of Nuestra Senora de la Assumption, the capital of the province; but the discovery of the whole, and, consequently, the conquest of people who inhabited it, being still imperfect, it was prosecuted by Alvar Nunez, surnamed Cabeza de Baca, or Cowhead, whose eminent services, on the death of Don Pedro de Mendoza, procured him the government of Buenos Ayres.

The only settlements in the whole extent of this government, are the city of Assumption, Villa Rica, and some other towns, whose inhabitants are a mixture of Spaniards, Mestizos, and some Indians, but the greatest part of the several casts. As the city itself is but small and irregular, nothing better can be expected in Villa Rica, and other towns and villages. Its houses are indeed intermixed with gardens and plantations, but without any symmetry. It is the residence of the governor of the province, who had formerly under his jurisdiction part of the towns composing the missions of Paraguay; but a few years since they were separated from it, and are now annexed to the government of Buenos Ayres; but without any change in the ecclesiastical government. In the city of Assumption is a cathedral, whose chapter consists of the bishop, dean, archdeacon, treasurer, and two canons. The parishes of the city of Villa Rica, and of the other towns depending on this government, are served by the Franciscans: but in the missionary towns they are solely under the care of the Jesuits; and these composing the greater number of towns in this province, I shall speak particularly of them, still keeping to that conciseness I have observed in the other jurisdictions.

The missions of Paraguay, besides those in the province of that name, include also a great many of Santa Cruz de la Sierra, Tucuman, and Buenos Ayres. Within a century and a half, the epocha of their first establishment, they have been the means of bringing into the bosom of the church many Indian nations, who lived in the blindness of idolatry, and the turpitude of the savage customs transmitted to them by their ancestors. The first instance of this apostolic zeal was the spiritual conquest of the Guaranies Indians, some of whom inhabited the banks of the rivers Uruguay and Parana; and others are near a hundred leagues up the countries north-west of the Guayra.

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The Portuguese, then only intent on the improvement of their colonies, in violation of the most sacred laws, did not, even after the conversion of these people, cease from making incursions, in order to carry off the young inhabitants as slaves for their plantations; so that it became absolutely necessary, in order to preserve these converts, to remove into Paraguay, about twelve thousand of all ages, and both sexes; a like number of emigrants was also brought from Tappe and formed into communities, living here in peace and safety; and, at the same time, in a decency becoming their new profession.

But the number of succeeding converts was so great, that continual additions were necessary to these towns, so that I was at Quito informed by a person of undoubted veracity, and thoroughly acquainted with such matters, that the number of towns of the Guaranies Indians in the year 1734, amounted to thirty-two, and supposed to contain between thirty and forty thousand families: that from the increasing prosperity of the Christian religion, they were then deliberating on the manner of building three other towns, these thirty-two being in the dioceses of Buenos Ayres and Paraguay. Besides the Indios Chiquitos belonging to the diocese of Santa Cruz de la Sierra, there were at that time seven very populous towns; and, by reason of the great resort of converted Indians, preparations were making for building others.

The Paraguay missions are on all sides terminated by nations of idolatrous Indians; some of which, however, live in perfect harmony with them, but others do all in their power to exterminate them by frequent incursions; and it is with the latter that the fathers chiefly employ their zeal, in order to reclaim them from their inhumanity, by preaching to them the glad tidings of the Gospel. Nor is this fortitude destitute of fruit, the most rational receiving with joy the knowledge of the true God, and, quitting their country, are conducted to the Christian towns, where, after proper instructions, they are admitted to baptism.

About a hundred leagues from the mission is a nation of idolaters, called Guanoas. It is with great difficulty any of these are brought to embrace the light of the Gospel, as they are extremely addicted to a licentious life; and a great number of Mestizos, and even some Spaniards, whom crimes have obliged to take shelter among them, by their ill example harden the Indians in their contempt of instruction. Besides they are so indolent and slothful, that they will not take the pains to cultivate the lands, choosing to live by the more expeditious way of hunting; and, being convinced, that if they embrace the Christian religion, and submit to the missionaries, they must labour, they cannot bear to think of a change which will inevitably deprive them of their favourite indolence. Many, however, of those who come to the Christian towns to visit their relations, cannot withstand the order and decency in which they see them live, and accordingly embrace the Christian religion.

It is nearly the same with the Charuas, a people inhabiting the country between the rivers Parana and Uruguay. Those dwelling on the banks of the river Parana, from the town of Corpus upwards, and called Guananas, are more tractable, and their industry in agriculture, and other rural arts, render them more susceptible of listening to the preaching of the missionaries; besides, no such thing as a fugitive is to be found among them. Near Cordova is another nation of idolaters, called Pampas, who, notwithstanding they frequently come to the city to sell different productions of the earth, are very obstinate in their opinions, and, consequently, are not reclaimed without the greatest difficulty. These four nations of idolatrous Indians live, however, in peace with the Christians.

In the neighbourhood of the city of Santa Fé, situated in the province of Buenos Ayres, are others who reject all terms of peace; so that even the villages and estates near Santiago and Salta, in the government of Tucuman, have felt the effects of their daring incursions. The other nations between these and the Chiquitos, and the lake of Xarayes, are little known. Not many years since some Jesuit missionaries ventured to visit their country up the river Pilcomayo, which runs from Potosi to Assumption; but their territories being very large, and living a vagrant sort of lives, without fixed habitations, the zeal of the good fathers was frustrated; as it has indeed on many other occasions, even after repeated trials.

The idolatrous Indians, who inhabit the country from the city of Assumption northward, are but very few. The missionaries have been so fortunate as to meet with some of these in their journeys after them, and prevailed on them to accompany them to the Christian towns, where, without much reluctance, they have embraced Christianity. The Chiriguano, already mentioned, also reside in these parts; but are so infatuated with the pleasures of a savage life, that they will not hear of living under laws.

From what has been said, it will easily be conceived that the country occupied by the Paraguay missions, must be of a very great extent. The air in general is moist and temperate, though in some parts it is rather cold\*. The temperate parts abound with all kinds of provisions. Cotton contributes considerably to their riches, growing here in such quantities, that every little village gathers of it annually above two thousand arobas; and the industrious are very ingenious in weaving it into stuffs for exportation. A great deal of tobacco is also planted here. But these articles are far less advantageous to the inhabitants than the herb called Paraguay, which alone would be sufficient to form a flourishing commerce in this province, it being the only one which produces it: and from hence it is sent all over Peru and Chili, where its use is universal; especially that kind of it called camini, which is the pure leaf; the other, distinguished by the name of palos, being less fine, and not so proper for making mate, is not so valuable.

These goods were carried for sale, to the cities of Santa Fé, and Buenos Ayres, where the fathers have factors; the Indians, particularly the Guaranies, wanting the sagacity and address, so absolutely necessary to procure success in commercial affairs. These factors dispose of what is consigned to them from Paraguay, and lay out the money in such European goods as the towns are then in want of, in ornaments for the churches, and the decent support of the priests officiating in them. But the greatest care is taken in deducting from what each town sends, the amount of the tribute of its Indian inhabitants, which is remitted immediately to the revenue offices, without the least deduction, except the stipends for the priests, and the pensions allowed the caciques.

The other products of their lands, together with their cattle, are made use of for the subsistence of the inhabitants, among whom they are distributed with such regularity and œconomy, that the excellent police under which those people live so happily, cannot be passed over in silence, without great injustice to these wise legislators.

Every town of the missions of Paraguay, like the cities and great towns of the Spaniards, are under a governor, regidores, and alcaldes. That the important office of a governor may be always filled by a person duly qualified, he is chosen by the Indians, with the approbation of the priests. The alcaldes are annually appointed by the regi-

\* White frosts are very common here in July and August, sometimes they have ice about the thickness of half a crown. The former phenomenon has been seen as far to the northward as Rio de Janeiro.

dores, and jointly with them, the governor attends to the maintenance of good order and tranquillity among the inhabitants: and that these officers, who are seldom persons of the most shining parts, may not abuse their authority, and either through interest, or passion, carry their revenge too far against other Indians, they are not to proceed to punishment without previously acquainting the priest with the affair, that he may compare the offence with the sentence. The priest, on finding the person really guilty, delivers him up to be punished, which generally consists in imprisonment for a certain number of days, and sometimes fasting is added to it; but if the fault be very great, the delinquent is whipt, which is the most severe punishment used among them; these people being never known to commit any crime that merits a greater degree of chastisement; for immediately on being registered as converts, the greatest care has been taken in these missions, to imprint on the minds of these new Christians, a detestation of murder, robbery, and such atrocious crimes. The execution of the sentence is preceded by a discourse made by the priest before the delinquent, in which he represents to the offender, with the greatest softness and sympathy, the nature of his crime, and its turpitude; so that he is brought to acknowledge the justness of the sentence, and to receive it rather as a brotherly correction than a punishment; so that though nature must feel, yet he receives the correction with the greatest humility and resignation, being conscious that he has brought it upon himself. Thus the priests are in no danger of any malice being harboured against them; indeed the love and veneration the Indians pay them, is so great, that could they be guilty of enjoining an unjust punishment, the suffering party would impute it to his own demerits, being firmly persuaded that the priests never do any thing without a sufficient reason.

Every town has a particular armory, in which are kept all the fire-arms, swords, and weapons used by the militia, when they take the field, whether to repel the insults of the Portuguese, or any heathen Indians inhabiting on their frontiers. And that they may be dexterous in the management of them, they are exercised on the evening of every holiday, in the market-places of the towns. All persons capable of bearing arms in every town, are divided into companies, and have their proper officers, who owe this distinction to their military qualifications; their uniform is richly laced with gold and silver, according to their rank, and embroidered with the device of their towns. In these they always appear on holidays, and at the times of exercise. The governor, alcaldes, and regidores, have also very magnificent habits of ceremony, which they wear on solemn occasions.

No town is without a school for teaching reading, writing, dancing, and music; and in whatever they undertake, they generally excel, the inclination and genius of every one being carefully consulted before they are forwarded in any branch of science. Thus many attain a very good knowledge of the Latin tongue. In one of the courts of the house belonging to the priest of every town, are shops or work-houses for painters, sculptors, gilders, silversmiths, locksmiths, carpenters, weavers, watchmakers, and all other mechanic arts and trades. Here every one works for the benefit of the whole town, under the inspection of the priests coadjutors: and boys are there also instructed in those trades and arts to which they have the greatest inclination.

The churches are large and well built, and with regard to decorations, not inferior to the richest in Peru. Even the houses of the Indians are built with that symmetry and convenience, and so completely and elegantly furnished, as to excel those of the Spaniards in many towns in this part of America. Most of them however are only of mud walls, some of unburnt bricks, and others of stone; but all in general covered with tiles. Every thing in these towns is on such good footing, that all private houses

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make gunpowder, that a sufficient quantity of it may not be wanting, either on any exigency, or for fireworks on holidays, and other anniversary rejoicings which are punctually kept. But the most splendid ceremony is on the accession of the new monarch to the Spanish throne, when the governor, alcaides, regidores, together with all the civil and military officers, appear in new uniforms, and other ornaments, to express the ardent affection they bear their new sovereign.

Every church has its band of music, consisting of a great number both of vocal and instrumental performers. Divine service is celebrated in them with all the pomp and solemnity of cathedrals. The like is observed in public processions, especially that on Corpus Christi day, at which the governor, alcaides, and regidores, in their habits of ceremony, and the militia in their uniforms, assist; the rest of the people carry flambeaux; so that the whole is conducted with an order and reverence suitable to the occasion. These processions are accompanied with fine dancing, but very different from that in the province of Quito, described in the first part; and the performers wear particular dresses, extremely rich, and well adapted to the characters represented. In short, a missionary town omits no circumstance either of festivity or devotion, practised in opulent cities.

Every town has a kind of beaterio, where women of ill fame are placed; it also serves for the retreat of married women who have no families, during the absence of their husbands. For the support of this house, and also of orphans and others, who by age or any other circumstance are disabled from earning a livelihood, two days in the week are set apart; when the inhabitants of every village are obliged to sow and cultivate a certain piece of ground, called *Labor de la Comunidad*, the labour of the community; and the surplus of the produce is applied to procure furniture and decorations for the church, and to clothe the orphans, the aged, and the disabled persons. By this benevolent plan all distress is precluded, and the inhabitants provided with every necessary of life. The royal revenues are punctually paid; and by the union of the inhabitants, the uninterrupted peace they enjoy, and the wisdom of their policy, which is preserved inviolable; these places, if there are any such on earth, are the habitations of true religion and felicity.

The Jesuits, who are the priests of these missions, take upon them the sole care of disposing of the manufactures and products of the Guaranies Indians, designed for commerce; these people being naturally careless and indolent, and doubtless without the diligent inspection and pathetic exhortations of the fathers, would be buried in sloth and indigence. The case is very different in the missions of the Chiquitos, who are industrious, careful, and frugal; and their genius so happily adapted to commerce, as not to stand in need of any factors. The priests in the villages of this nation are of no expence to the crown, the Indians themselves rejoicing in maintaining them; and join in cultivating a plantation filled with all kinds of grain and fruits for the priest; the remainder, after this decent support, being applied to purchase ornaments for the churches.

That the Indians may never be in any want of necessaries, it is one part of the minister's care to have always in readiness a stock of different kinds of tools, stuffs, and other goods; so that all who are in want repair to him, bringing by way of exchange wax, of which there are here great quantities, and other products. And this barter is made with the strictest integrity, that the Indians may have no reason to complain of oppression; and that the high character of the priests for justice and sanctity may be studiously preserved. The goods received in exchange are by the priests sent to the superior of the missions, who is a different person from the superior of the Guaranies;

ranies; and with the produce, a fresh stock of goods is laid in. The principal intention of this is, that the Indians may have no occasion to leave their own country, in order to be furnished with necessaries; and by this means are kept from the contagion of those vices, which they would naturally contract in their intercourse with the inhabitants of other countries, where the depravity of human nature is not corrected by such good examples and laws.

If the civil government of these towns be so admirably calculated for happiness, the ecclesiastical government is still more so. Every town and village has its particular priest, who, in proportion to its largeness, has an assistant or two of the same order. These priests, together with six boys who wait on them, and also sing in the churches, form in every village a kind of small college, where the hours are under the same regulation, and the exercises succeed each other with the same formalities as in the great colleges of cities. The most laborious part of the duty belonging to the priest, is to visit personally the chacaras or plantations of the Indians; and in this they are remarkably sedulous, in order to prevent the ill consequences of that slothful disposition so natural to the Guaranies; who, were they not frequently roused and stimulated by the presence of the priest, would abandon their work, or, at least, perform it in a very superficial manner. He also attends at the public slaughter-house, where every day are killed some of the cattle; large herds of which are kept for the public use by the Indians. The flesh of these beasts is dealt out by the priest, in lots proportionable to the number of persons each family consists of; so that every one has a sufficiency to supply the calls of nature, but nothing for waste. He also visits the sick, to see that they want for nothing, and are attended with that care and tenderness their state requires. These charitable employments take up so great a part of the day, as often to leave him no time for assisting the father coadjutor in the services of the church. One useful part of the duty of the latter is to catechize, and explain some portion of scripture in the church every day in the week, Thursdays and Saturdays excepted, for the instruction of the young of both sexes; and these in every town are not less than two thousand. On Sundays all the inhabitants never fail to attend divine service. The priest also visits the sick to confess them; and if the case requires it, to give them the viaticum; and to all these must be added, the other indispensable duties of a priest.

By the strictness of the law these priests should be nominated by the governor, as vice-patron, and be qualified for their function by the consecration of the bishop; but as among the three persons recommended on such occasions to the governor, there will of consequence be one, whose virtues and talents render him most fit for the office; and as no better judges of this can be supposed than the provincials of the order, the governor and bishop have receded from their undoubted rights, and the provincials always collate and prefer those whose merits are most conspicuous.

The missions of the Guaranies are also under one superior, who nominates the assistant priests of the other towns. His residence is at Candelaria, which lies in the centre of all the missions; but he frequently visits the other towns, in order to superintend their governments; and at the same time, concert measures that some of the fathers may be sent among the heathen Indians, to conciliate their affections, and by degrees work their conversion. In this important office he is assisted by two vice-superiors, one of whom resides at Parana, and the other on the river Uruguay. All these missions, though so numerous and dispersed, are formed as it were into one college, of which the superior may be considered as the master or head; and every town

town is like a family governed by a wise and affectionate parent, in the person of the priest.

In the missions of the Guaranies, the King pays the stipends of the priests, which, including that of the assistant, is three hundred dollars per annum. This sum is lodged in the hands of the superior, who every month supplies them with necessary food and apparel, and on any extraordinary demand, they apply to him, from whom they are sure of meeting with a gracious reception.

The missions of the Chiquito Indians have a distinct superior; but with the same functions as he who presides over the Guaranies; and the priests also are on the same footing, but have less anxiety and labour; the industry and activity of these Indians, saving them the trouble of coming among them to exhort them to follow their employments, or of being the storekeepers and agents in disposing of the fruits of their labours; they themselves vending them for their own advantage.

All these Indians are very subject to several contagious distempers; as the small-pox, malignant fevers, and others, to which, on account of the dreadful havock attending them, they give the name of pestilence. And to such diseases it is owing, that these settlements have not increased in a manner proportional to their numbers, the time since their establishment, and the quietness and plenty in which these people live.

The missionary fathers will not allow any of the inhabitants of Peru, whether Spaniards or others, Mestizos or even Indians, to come within their missions in Paraguay. Not with a view of concealing their transactions from the world; or that they are afraid lest others should supplant them of part of the products and manufactures; nor for any of those causes, which even with less foundation, envy has dared to suggest; but for this reason, and a very prudent one it is, that their Indians, who being as it were new-born from savageness and brutality, and initiated into morality and religion, may be kept steady in this state of innocence and simplicity. These Indians are strangers to sedition, pride, malice, envy, and other passions, which are so fatal to society. But were strangers admitted to come among them, their bad examples would teach them what at present they are happily ignorant of; but should modesty, and the attention they pay to the instructions of their teachers, be once laid aside, the shining advantages of these settlements would soon come to nothing; and such a number of souls, who now worship the true God in the beauty of holiness, and live in tranquillity and love (of which such slender traces are seen among civilized nations), would be again seduced into the paths of disorder and perdition.

These Indians live at present in an entire assurance, that whatever their priests advise them to is good, and whatever they reprehend is bad. But their minds would soon take a different turn, by seeing other people, on whom the doctrine of the gospel is so far from having any effect, that their actions are absolutely repugnant to its precepts. At present they are firmly persuaded, that in all bargains, and other transactions, the greatest candour and probity must be used, without any prevarication or deceit. But it is too evident, that were others admitted among them, whose leading maxim is to sell as dear, and buy as cheap as they are able, these innocent people would soon imbibe the same practice, together with a variety of others which seem naturally to flow from it. The contamination would soon spread through every part of their behaviour, so as never to be reclaimed. I do not here mean to lessen the characters of those Spaniards or inhabitants of other nations, whose countries are situated conveniently for trading with Paraguay, by insinuating that they are universally fraudulent and dissolute; but, on the other hand, among such numbers, it would be very strange if there was not some; and one single person of such a character would be sufficient to infect

infect a whole country. And who could pretend to say, that, if free admission were allowed to foreigners, there might not come in, among a multitude of virtuous, one of such pestilent dispositions? Who can say that he might not be even the very first? Hence it is that the Jesuits have inflexibly adhered to the maxim of not admitting any foreigners among them; and in this they are certainly justified by the melancholy example of the other missions of Peru, whose decline from their former happiness and piety is the effect of an open intercourse.

Though in the several parts of Paraguay, where the missions have been always settled, there are no mines of gold and silver; several are to be found in some adjacent countries under the dominion of the King of Spain; but the Portuguese reap the whole benefit of them: for having encroached as far as the lake Xarayes, near which, about twenty years ago, a rich mine of gold was discovered, they, without any other right than possession, turned it to their own use; the ministry in Spain, in consideration of the harmony subsisting between the two nations, and their joint interest, forbearing to make use of any forcible methods.

#### V. Bishoprick of the Audience of Charcas. — Buenos Ayres.

The ecclesiastical jurisdiction of the bishop of Buenos Ayres extends to all the countries under the temporal government of the same name; and this begins on the oriental coast of that part of America, and extends westward as far as Tucuman; on the north it terminates on Paraguay, and is bounded towards the south by the land of Magellan. Its countries are watered by the great river De la Plata, the discovery of which was owing to Juan Dias de Solis, who, in 1515, having sailed from Spain with two vessels to make discoveries, arrived at the mouth of this river, and took possession of it in the name of the King of Spain. But being unhappily deluded by the signs of joy and friendship made by the Indians, he landed, and was immediately killed, together with his few attendants. The same voyage was repeated in 1526, under Sebastian Cabot, who, entering the river, discovered an island, which he called St. Gabriel; and advancing further, came to another river, which emptied itself into that of La Plata; to this he gave the name of St. Salvador, causing his fleet to enter the river, and there disembark their troops. Here he built a fort, and leaving in it a part of his men, he sailed above two hundred leagues up the river Parana, discovering also that of Paraguay. Cabot, having purchased some ingots of silver from the Indians he met with, and particularly from the Guaranies, who brought the metal from the other parts of Peru, imagined that they had found it in the neighbourhood of the river, and thence called the river Rio de la Plata, or Silver River, which has superseded that of Solis, as it was before called from its first discoverer, whose memory is still preserved by the little river Solis, about seven or eight leagues west of Maldonado bay.

The capital of this government is called Nuestra Senora de Buenos Ayres. It was founded in the year 1535 by Don Pedro de Mendoza, pursuant to his orders, which also appointed him governor. He chose for it a place called Cape Blanco, on the south side of Rio de la Plata, close by a small river. Its latitude, according to Father Feville, is  $34^{\circ} 34' 38''$  S. He gave it the name of Buenos Ayres, on account of the extreme salubrity of the air. The city is built on a large plain, gently rising from the little river. It is far from being small, having at least three thousand houses, inhabited by Spaniards and different casts. Like most towns situated on rivers, its breadth is not proportional to its length. The streets are, however, straight, and of a proper breadth. The principal square is very large, and built near the little river; the front answering to it being a castle, where the governor constantly resides; and, with the other forts, has a garrison of a



Engraved by John Byrne

*View of Buenos Ayres.*

of a thousand regular troops. The houses, formerly of mud-walls, thatched with straw and very low, are now much improved, some being of chalk, and others of brick, and having one story besides the ground-floor, and most of them tiled\*. The cathedral is a spacious and very elegant structure, and is the parish-church for the greatest part of the inhabitants; the other, at the farther end of the city, being only for the Indians. The chapter is composed of the bishop, dean, archdeacon, and two canons, one by composition, the other by presentation. Here are also several convents, and a royal chapel in the castle where the governor resides. With regard to the civil and economical government, and the magistracy, it will be unnecessary to enter into particulars, they being on the same footing as those of the places already mentioned.

The climate here is very little different from that of Spain, and the distinctions between the seasons are the same. In winter, indeed, violent tempests of winds and rain are here very frequent, accompanied with such dreadful thunders and lightnings, as fill the inhabitants, though used to them, with terror and consternation. In summer the excessive heats are mitigated by gentle breezes, which constantly begin at eight or nine in the morning.

The city is surrounded by a spacious and pleasant country, free from any obstruction to the sight; and from these delightful fields the inhabitants are furnished with such a plenty of cattle, that there is no place in America or Europe where meat is better or cheaper. It is the usual custom to buy the hides of the beast, the carcase being in some measure a gratuitous addition; and the meat is always fat and very palatable. The country to the west, south, and north of Buenos Ayres lately abounded so greatly in cattle and horses, that the whole cost consisted in taking them; and even then a horse was sold for a dollar of that money, and the usual price of a beast, chosen out of a herd of two or three hundred, only four rials. At present there is no scarcity, but they keep at a greater distance, and are more difficult to be caught, by reason of the prodigious havock made of them by the Spaniards and Portuguese, merely for the sake of their hides; the grand commerce of Buenos Ayres.

All kinds of game and fish are also here in the same plenty, several sorts of the latter being caught in the river running by it; but the perexeyes are very remarkable, some of them being half a yard or more in length. Both the American and European fruits come to full perfection, and are in great plenty. In a word, for the enjoyments of life, especially with regard to the salubrity of the air, a finer country cannot be imagined.

This city is situated about seventy-seven leagues from Cape Santa Maria, which lies on the north coast near the entrance of the river De la Plata; and its little river not having water sufficient for ships of burden to come up to Buenos Ayres, they anchor in one of the two bays on the same coast. That farthest to the eastward is called Maldonado, and is nine leagues from the above cape: the other bay is, from a mountain near it, named Monte Video, and is about twenty leagues from it.

Within the government of Buenos Ayres are three other cities, namely, Santa Fé, Las Corrientes, and Monte Video. The last, which was lately built, stands on the border of the bay, from whence it derives its name. Santa Fé lies about ninety leagues north-west of Buenos Ayres, between the Rio de la Plata and the Rio Salado, which, after running through the country of Tucuman, joins the former. The city is but small, and meanly built, owing in a great measure to the insults it has frequently suffered from the heathen Indians, who not long since pillaged it, massacring the inhabitants of the city, and those of the neighbouring villages; and they still keep the country under continual apprehensions of another visit. It is, however, the channel of the commerce be-

\* Their houses are commonly thatched with cocoa-nut-leaves and flags. A.

tween Paraguay and Buenos Ayres, for the herb camini and palos. The city De las Corrientes, situated on the eastern banks of the river De la Plata, betwixt it and the river Parana, is about an hundred leagues north of the city of Santa Fé. Its magnitude and disposition are both inferior to Santa Fé, and indeed has no marks of a city, except the name. Each of these cities has its particular corregidor, as lieutenant of the governor; and its inhabitants, together with those of the neighbouring country, are formed into a militia, which, on any appearance of an invasion from the Indians, assemble, and have often shewn a great deal of resolution in repelling the attacks of their pagan enemies. It has already been observed, that part of the towns of the missions of Paraguay belong to this diocese, and, with regard to the royal jurisdiction, these missions universally depend on Buenos Ayres; those which formerly belonged to the government of Paraguay having been separated from it.

Having thus, with the government of Buenos Ayres, finished my account of every thing worthy of notice in the audiences of Lima and Charcas, together with the jurisdictions included in their dioceses, it now remains only to conclude my description of the kingdom of Peru with an account of the kingdom and audience of Chili; but the many objects of importance in it so well deserve to be fully treated of, that I thought proper to reserve them for the following book; those included in this, as I have mentioned in its place, merited a much greater prolixity: for from what has been said in the first part of the province of Quito, some idea of the difference between the two with regard to the number of people, towns and villages, trade and commerce, may be conceived; the province of Quito having only one diocese, and part of another; whereas Lima contains one archbishopric, and four bishoprics; and that of Charcas one bishopric more than that of Lima. In the province of Quito only a few mines are worked, and those to little advantage; whereas the mines of Lima and Charcas, by their immense riches, draw thither great numbers of traders and industrious people, and thus spread wealth and affluence through the whole country, by the brisk circulation of trade. It must, however, be owned, that the number of people in these provinces bear no proportion to their extent; and it is with too much truth said, that they are in many places almost destitute of people; for supposing a corregidor to have twenty villages under his jurisdiction, yet if the least extent of it be thirty leagues one way, and fifteen another, they must be very thin. For draw a parallelogram of that dimension, it will contain four hundred and fifty square leagues of ground, and consequently the share of each village will be twenty-two square leagues and a half. This calculation is made from the smallest distances, there being jurisdictions of a far greater extent; and others, which, though equal in dimensions, have not twenty villages. What has been said of the products and manufactures in each jurisdiction must be understood in a general sense, we not having entered into many particulars made or produced in some towns, and not common to others, as may be observed in the description of Quito. But these accounts, drawn from our own experience, and the relations of persons of undoubted veracity, we hope will not prove unacceptable to the reader, who is desirous of forming a true idea of these parts, which for their riches, fertility, prodigious extent, and many other particulars, merit the greatest attention; especially for the amazing success which has attended the propagation of the Christian religion, in countries formerly involved in ignorance and inhumanity.\*

\* It is supposed, that the Kings of Spain and Portugal have five times the number of subjects in their American settlements than in their respective kingdoms. Notwithstanding which, you may travel in America twenty leagues together, and not see a hut, except you are in the neighbourhood of the great towns; so great are the tracts of lands possessed by each Prince.

BOOK VIII.

RETURN FROM LIMA TO QUITO; VOYAGE FROM CALLAO TO GUAYAQUIL, FOR PUTTING THAT CITY IN A POSTURE OF DEFENCE AGAINST THE ATTACK APPREHENDED FROM THE ENGLISH SQUADRON, UNDER COMMODORE ANSON. SECOND VOYAGE TO LIMA, AND FROM THENCE TO THE ISLAND OF JUAN FERNANDES, AND THE COAST OF CHILI: WITH AN ACCOUNT OF THAT KINGDOM, AND THE ADJACENT SEA, AND RETURN TO THE PORT OF CALLAO.

CHAP. I. — *Voyage from Callao to Paita, with nautical Remarks.*

THE time of our stay at Lima and Callao was taken up in the diligent execution of several commissions with which the viceroy had been pleased to honour us, for putting the coasts and other parts of that kingdom in the best posture of defence; that in case an English squadron should make an attack\*, so a vigorous resistance might discourage any farther attempt of that nature. Having made the necessary dispositions to the viceroy's satisfaction, and four men of war which had been sent at the beginning of the summer to cruise off the coast of Chili, in order to attack the English squadron at their first appearance, being returned without the least information of any foreign ships having been seen in those seas; and the season of the year now inclining to winter, when every one was of opinion, that it was utterly impracticable for Mr. Anson and his ships to get round Cape Horn that year, if (as indeed we concluded) he had not already performed it; we desired leave, as our longer stay could be of no service, to return to Quito, in order to prosecute the original design of our voyage. This leave we, with some difficulty, obtained; by reason of the great want of officers in Peru, and the certain advice the viceroy received, that the Spanish squadron, under the command of Don Joseph Pizarro, had not been able to get round Cape Horn. But at length, convinced that our stay would greatly retard the execution of His Majesty's particular commands, and confident that on any sudden exigency he would find the same alacrity in us to obey his orders, he was pleased to grant our request, and dismissed us in the most polite manner.

There happened at this time to be one of the largest merchant ships trading in the South Seas, at Callao, just ready to sail for Guayaquil, called the Chaldas. On board this ship we embarked on the 8th of August 1741, and on the 15th of the same month anchored at Paita: continued our voyage from thence on the 18th, and on the 21st entered the harbour of Puna. We immediately set out for Guayaquil, and from thence continued our journey for Quito, which we reached on the 5th of September.

The course generally steered from Callao to Paita, is first west-north-west till the ships are past the Feralones† of the island of Guara. From thence north-west and north-west one quarter northerly, to a latitude a little beyond the outermost island of Lobos, or Wolves. Afterwards they steer north and north-east, till they make the continent within them, and which is continued in sight till they arrive at the port of Paita; being very careful to keep at a proper distance from Oguja, which is very low, and projecting a great distance into the sea. Accordingly cautious navigators, after passing the islands of Lobos, steer a north course till they get sight of that of Nonura.

\* At this time Spain and England were at war.

† The Feralones are two old walls on the island of Guara, and serve as light-houses.

The land of this whole coast is low; but there are two signs which evidently indicate its being near. First the sea-wolves, which are seen near these islands, and at three or four leagues distant from them. The second is the great flocks of birds all along this coast, flying two or three leagues from the shore, in quest of food. And though fogs are very frequent here, and so thick as to hide the land, yet its distance may be nearly known from these signs in the day-time; but at night more circumspection is necessary on account of the extreme lowness of the shore. And though the islands of Lobos are something higher than the coast, too much caution cannot be used in approaching them.

It is common in this voyage if the ship is intended to touch at Païta, and has not had sight of the islands of Lobos in the day-time, when in their latitude, to lie-to all night. But if they do not propose to stop at Païta, proper attention must be given to the course, and the voyage continued. If the ship be bound to Païta, there is a necessity for making these islands, or the continent near them to the north, in order to avoid being carried beyond the port by the currents; as in such a case a great deal of time would be lost in getting back, both the wind and currents being contrary.

From Païta, the coast is always kept in sight; but a careful look-out is necessary in order to discover the Negrilos, rocky shoals, projecting four or five leagues distant from the shore, and lying betwixt Païta and Cape Blanco, one of the points of Guayaquil bay. The winds during this whole passage are usually south, but in the summer, that is, from November to May, sometimes veer as far as south-east. Near the coast is a periodical morning breeze, or faint easterly wind, which shifts round to the south-east or south-south-east, and in this season, at any distance from the coast, the south winds are also faint; nor are the calms uncommon, though they are of short continuance; but the brisas never reach so far: and this renders the voyage from Païta to Callao so very long in all seasons. For if a ship stretches out to a great distance from the coast, the winds, even within ten or twelve leagues, shift from south to south-west, but if she keeps along the shore and endeavours to perform her voyage by tacking, she loses on one what she gained on another. Besides, during the winter the currents set strongly towards the north or north-west, and consequently render the voyage still more tedious. In summer there is here generally no current, or if any do set to the northward, it is scarcely perceived; the direction of the current in that season being generally west. This proceeds from the brisas blowing from the north of the equator, though they are unable to change the set of the current to the south as would be the natural consequence, were it not for the resistance it meets with from the waters agitated by the south winds to the southward of the equinoctial; but by meeting each other they run towards the west. There are, however, some short intervals during the summer, when the currents suddenly change their direction, and run to the southward, but at no great distance from the shore; and in the same instantaneous manner shift about to an opposite point; and this is the reason why most ships coming from Païta to Callao in this season keep near the shore, and work up to windward, hoping, by the favourable change of the currents, to acquire that assistance which the winds deny.

At all times this voyage is of a most disagreeable and fatiguing length; for though the distance, according to the latitude of these ports, be only one hundred and forty leagues, a ship is very fortunate to perform it in forty or fifty days; and if even after spending that time in continual labour, she be not obliged to return again to Païta: such accidents being very common; and it is nothing extraordinary to meet with two or three misfortunes of the same kind successively, especially if the ships make a great

deal of lee-way, when it is often a twelvemonth's task. They relate here a story to this purpose, that the master of a merchant ship, who had been lately married at Païta, took his wife on board with him, in order to carry her to Callao. In the vessel she was delivered of a son, and before the ship reached Callao, the boy could read distinctly. For after turning to windward, two or three months, provisions growing short, the master put into some port, where several months were spent in procuring a fresh supply; and after another course of tacking, the same ill-fortune still pursued him; and thus four or five years were spent in tacking and victualling, to the ruin of the owner, before the ship reached Callao. This misfortune was in a great measure owing to the ill-construction of the ship; and every other circumstance tending to obstruct her passage, the transaction has nothing very wonderful in it.

According to observations made by Don George Juan at Païta, in the year 1737, its latitude is  $5^{\circ} 5'$  south. It is a small place, having only one street, and about one hundred and seventy two houses; and these only of quinchas and canes covered with leaves; the only house built of stone being that of the governor. It has a parish church and a chapel dedicated to Our Lady of Mercy, and served by a religious of that order. A little to the southward of the town is a mountain, called from its figure Silla de Païta, or the saddle of Païta. The soil round Païta is wholly of sand, and extremely barren; for besides the total want of rain, it has not a single river for the conveyance of water; so that it is entirely destitute of that necessary fluid, unless what is daily brought with great fatigue from Colan, a town on the same bay, four leagues north of Païta, and near which runs the river Chera, the same stream which waters Amotape. The Indians of the town of Colan are under an obligation of daily sending to Païta, one or two balzes loaded with water, which is distributed among the inhabitants by stated proportions. From the same town Païta has also the greatest part of its provisions. The nature of the soil, and the situation of the place, render it extremely hot. Its inhabitants, who are about thirty-five or forty families, and consist of Spaniards, Mulattoes, and Mestizos, live chiefly by passengers going or returning from Panama to Lima. So that the town owes its whole support to the harbour, which, as I have before observed, is the place where the cargoes of goods sent from Panama are landed, together with those coming from Callao to the jurisdictions of Piura and Loja.

In the bay of Païta, and that of Sechura, which lies a little farther to the southern, such large quantities of tollo are taken as to answer the demands of the provinces of the mountains, and part of those of Quito and Lima. The season for this fishery begins in October, when great numbers of barks go from Callao, returning when the season is over. Fishing is also the constant employment of the Indians of Colan, Sechura, and the small hamlets near the coast; these seas abounding in several kinds of fish, besides the tollo, all palatable, and some delicious.

## CHAP. II.—*Account of the Transactions at Quito: unhappy Occasion of our sudden Return to Guayaquil.*

ON our arrival at Quito, we made it our first business to join the French company, who were pleased to express a great deal of joy at our return. Mr. Godin, during our absence, had finished the astronomical observations to the northward, and though Messrs. Bouguer and De la Condamine had also gone through them, yet they still purposed to repeat them; for these able academicians, who had always shewn an

indefatigable zeal for the perfection of the work, were particularly attentive in observing the greatest obliquity of the ecliptic; at which observations we also assisted; but several accidents hindered them from being carried on without interruption. They therefore thought it most agreeable to their character, and the commission with which they had been honoured, to spend some time in ascertaining this important point, than to leave the country before their observations were completed. Notwithstanding their stay was attended with so much inconvenience and fatigue, they could not think of leaving, undetermined, a difficulty occasioned by a certain motion which they observed in the stars. In order to ascertain with the greatest accuracy the quantity of the arch, they divided themselves into two companies, Bouguer being at the head of one, and M. de la Condamine, accompanied by M. Berquin, at that of the other; the latter, while the geometrical mensuration was carrying on, applied himself with indefatigable labour, and admirable skill, in drawing maps of the country, in order to erect the signals in the most advantageous places. He also assisted both companies in their mensurations of the two bases, which served to prove the accuracy of the operations. And, lastly, he was present at making the astronomical observations. But before the repetition was undertaken, M. de la Condamine employed himself in erecting two obelisks at the extremities of the base of Yaruqui, as monuments of this transaction: this spot having been the foundation of the whole work. Various were the sentiments with regard to the inscription proper to be engraved on them; and indeed the difficulties attending this particular, seemingly of no great importance, were such, as could not be removed till the affair was entirely dropt, on account of other things of real concern, and which would admit of no delay. It was however unanimously concluded, that the whole affair should be referred to His Majesty's pleasure after our arrival in Spain. Accordingly in the year 1746, the Marquis de la Ensenada, equally distinguished as a statesman, and a patron of real knowledge, being at that time secretary of state for the Indies, sent over, in His Majesty's name, the following inscription:

PHILIPPO V.  
Hispaniarum, & Indiarum Rege Catholico,  
LUDOVICI XV.  
Regis Christianissimi Postulatis, Regiæ Scientiarum  
Academiæ Parisiensis  
Votis Annuente, ac Favente,  
LUDOV. GODIN, PETRUS BOUGUER,  
CAR. MARIA DE LA CONDAMINE,  
Ejusdém Academiæ Socii,  
Ipsius Christianissimi Regis Jussu, & Munificentia,  
Ad Metiendos in Æquinoctiali Plaga  
Terrestres Gradus,  
Quo vera Terræ Figura Certius Innotesceret,  
In Peruviam Missi;  
Simulque  
GEORGIUS JUAN, S. JOHANNIS Hierosolymitani Ord.  
Eques, &  
ANTONIUS DE ULLOA,  
Uterque Navium Bellicarum Vice-præfecti, et Mathematicis Disciplinis Eruditi,  
Catholici

Catholici Regis Nutu Auctoritate Impensa ad ejusdem mensuræ Negotium eodem  
allegati Communi Labore, Industria, Consensu in hac Yaruquensi  
Planitie distantiam Horizontalem  $6272 \frac{55}{726}$  Paris.

Hexapedarum,

In Linea a Borea Occidentem versus grad. 19 min.

$25\frac{1}{2}$  intra hujus & alterius

Obelisci Axes Excurrentem,

Quæque ad Basim primi Trianguli Latus Eliciendam & Fundamenti Toti Operi  
jaciendum inserviret, statuere,

Anno CHRISTI MDCCXXXVI. Mense NOVEMBRI.

Cujus Rei Memoriam duabus hinc inde Obeliscorum molibus extructis Alternum  
consecrari placuit.

“ In the reign of His Catholic Majesty, Philip V. King of Spain and the Indies; agreeable to the request of His Most Christian Majesty Lewis XV. King of France, and in condescension to the desire of the Royal Academy of Sciences at Paris, Lewis Godin, Peter Bouguer, Charles Marie de la Condamine, members of that academy, were, by the command and munificence of the Most Christian King, sent into Peru, to measure the terrestrial degrees under the equinoctial, in order to obtain a more accurate knowledge of the true figure of the earth. At the same time, by the command, and at the expence of His Catholic Majesty, were sent, George Juan, knight of the order of St. John of Jerusalem, and Antonio de Ulloa, both lieutenants in the royal navy, and well acquainted with all the branches of the mathematics: during the whole process of this mensuration they all equally shared in the fatigues, hardships, and operations; and with an unanimous consent determined in this plain of Yaruqui a horizontal distance of  $6272 \frac{55}{726}$  Paris toises in a line whose direction was north  $19^{\circ} 25' 30''$  westerly, and intercepted between the axes of this and the other obelisk, as the base or side of the first triangle, and a foundation for the whole work. In the month of November 1736. In the memory of which transaction an obelisk has been erected at each extremity of the said base.”

We had now been three months at Quito, waiting till Mr. Hugot, instrument-maker to the company, had finished some indispensable works in which he was then employed, that he might accompany us to the place where M. Godin, after finishing the observations, had left the instrument, which required some repairs in order for our making use of it in finishing our part of the work. But on the 5th of December 1741, when we were animated with the hopes of concluding our task in two or three days, the melancholy news arrived at Quito, that Païta had been pillaged and burnt by a squadron of men of war, commanded by Commodore Anson; and was too soon confirmed in all its circumstances, by letters from the corregidor and other officers of Piura, giving an account that on the 24th of November, at two in the morning, the Centurion man of war, being the Commodore's ship, had entered that harbour, and sent her long-boat ashore with forty armed men, under the advantage of the night, whereby the inhabitants and strangers who happened to be in the place, were awaked from their sleep by the shocking surprise of an invasion, the first notice of which were given by the cries of a negro; so that filled with confusion and terror, like persons unable to recollect themselves, most of them had leaped from their beds, and fled naked from their houses, without knowing whether their enemies were in possession of the town; or whether, by a vigorous resistance they might not be repelled;

the mind, on so great and sudden a perturbation, being but little capable of such reflections.

Not so Don Nicholas de Salaza, the accomptant of Piura, who happened to be then at Paita, on some affairs of his office. This gentleman, attended only by a negro slave, with an equal presence of mind and resolution, threw himself into the little fort, built for the defence of that small town, and fired two or three shot towards the place where he heard the noise of the oars. Upon this the long-boat stopped; but the fort was obliged to give over firing for want of hands to assist an officer who had shewn so generous an example of resolution. The English, concluding very naturally, that the fort was also abandoned, landed about half a league north of the town, to which they immediately marched, and finding it forsaken, entered the fort, where, for fear of any surprise, they kept themselves all night. But the inhabitants thought of nothing but saving their lives, and accordingly fled to a mountain, betwixt the Silla and the town, where they concealed themselves, except a few slaves, who, finding that the enemy were all retired into the fort, took the advantage of the night, and boldly returned into the town, bringing off such arms and effects of their masters as the night would permit, hiding in the sand what they found too heavy to carry up to the top of the mountain.

There was unfortunately then at Paita great quantities of meal, fruits, and brandy, consigned to the provinces of the mountains, by the way of Piura; besides other goods deposited in the warehouses to be sent to Panama. There was also no small quantity of gold and silver. As soon as daylight returned, the English left their retreat, and seeing every place forsaken, they began to enter the houses, which are so many magazines for goods. It was not long before they met with a quantity of brandy and wine, of which, like men whose appetites are not to be governed at the sight of plenty after long distress, they made a very licentious use, and became so greatly inebriated, that the mulattoes and negro slaves, seeing their condition, abandoned their fears, and became so familiar with the English sailors, as to drink with them, whilst others carried off hampers filled with the goods of their masters, together with considerable quantities of gold, which they buried in the sand. The long-boat, however, returned on board the ship, but her chief spoils consisted of provisions; and the men employed in that service regaled themselves with a degree of intemperance equal to those who guarded the fort.

The inhabitants of Paita, who still timorously continued on the mountain, though in want of every thing, dispatched an express to Don Juan de Vinatea y Torres, the corregidor of Piura, and a native of the Canaries, who, agreeably to his known character of prudence and intrepidity, immediately assembled all the militia of that city and its dependencies, and hastened by forced marches through a troublesome sandy road of fourteen leagues to Paita. The English had been three days masters of Paita, when discovering these succours, and being informed by the negroes and mulattoes that the militia of Piura, headed by a famous general, were coming to dislodge them from the town; enraged at this, but wanting courage to defend what they had gained, or rather surprised, carried off whatever they could, and took their leave of the place by ungenerously setting fire to the houses; an action which could reflect but little honour on the arms of their nation: but was rather a malicious transaction, to revenge on the poor inhabitants the coming of the militia, whom they did not dare to face. Nobody indeed imagined at that time that this proceeding was in consequence of any orders issued by the commander, and it was afterwards known that he was under great concern for such unjustifiable behaviour.

The corregidor of Piura, as he had been very active in the defence of Paita, so he lost no time in sending advice of the descent to the corregidor of Guayaquil, that he might  
put

put that city in a posture of defence; it being natural to suppose, that the English would also make an attempt there, as it had always been attacked by every enemy who before infested those seas. Accordingly the inhabitants of Guayaquil were soon in arms, and the best measures taken with the utmost expedition. But the force of the enemy being uncertain, no other ship having been seen at Païta than that which entered the port, the corregidor and magistrates applied for assistance to the president and audience of Quito; who, among other measures for securing Guayaquil from the rage of the English, required us in His Majesty's name, to repair immediately to that city, and take upon us the command of the troops, all the jurisdictions having received orders to send their contingencies; and to direct the works to be raised, and the trenches necessary to be thrown up in the places most advantageous and most exposed.

As affairs of this nature admit of no delay, we immediately prepared for the journey, and leaving Quito the 16th of December, arrived at Guayaquil on the night of the 24th. But the passage of the mountains was inconceivably fatiguing; the natural difficulty and badness of the roads, it being the beginning of winter, having been greatly increased by the violent rains.

Having gone through all the necessary operations, and taken the most proper measures to defeat the attempts of an enemy, and such as we had the pleasure of seeing approved by the council of war held in that city, our longer stay only hindered the conclusion of our grand design, and was of no further use here, especially as it was then certainly known that the enemy's squadron had sailed for Manta, the coasts of which, though in the jurisdiction of Guayaquil, are nearly twenty-eight leagues north of that city, and consequently to leeward of it. It was also known that the fleet intended to proceed from Manto to Acapulco. Impatient at the loss of time, we applied to the same council of war, who were pleased to grant leave for one of us to return to Quito, in order to complete the observations still remaining, that on any subsequent exigency we might be the more disengaged; but at the same time thought it necessary that one of us should continue on the spot to act on any sudden emergency. The matter was soon agreed on between Don George Juan and myself, namely, that he should remain as commandant of Guayaquil, while I returned to continue the observations at Quito. But before I proceed, it will not be amiss to give an account of the transactions of the enemy's squadron in those seas, according to the depositions of some prisoners whom they set ashore at Manta.

This squadron, at its entrance into the South Sea, besides being dispersed, was in a very shattered condition; but arrived successively at the island of Juan Fernandes, to the number of four ships, from fifty to sixty guns, the Centurion and the Gloucester, a frigate between thirty-six and forty guns, and a victualler. These ships came to an anchor close to the shore, their crews being very much diminished, and those which remained very sickly. Tents were pitched, a kind of village built with an hospital for the recovery of their men. They arrived at this island in the month of June, and the commander was so quick in his prosecution of hostilities, that as soon as a number of sailors sufficient to man the frigate were recovered, she was sent out on a cruise; and this being in the common track of ships bound from Callao to the coast of Chili, they had the good fortune to take two or three, all of them richly laden, particularly the Aranzaza, one of the largest employed in those seas. Great numbers of men died on the island of Juan Fernandes, but on the recovery of the remainder, and the ships being careened, they sunk the victualler, and some time after the frigate, putting the guns and provisions on board the Aranzaza. After this the whole squadron put to sea upon fresh enterprises, and about eight or nine vessels fell into their hands; and between

Paita and the island of Lobos, they took a coast ship of great value. The sacking of Paita was the last act of hostility they committed in these parts; for the English commodore having procured intelligence of the short time requisite to alarm Guayaquil, and finding that there had been abundantly more than sufficient, prudently abandoned a design, against which he judged insuperable precautions had been taken; and indeed had he made an attempt, in all probability those spirits would have been depressed, which were so greatly elevated at their success in Paita.

After leaving Paita they steered for the coast of Manta, where they put the prisoners they had taken in the merchant ships on board a long-boat, to make the best of their way to the land; the ship, keeping ten or twelve leagues from the shore; but many of the sailors, negroes, and mulattoes, who had nothing to lose, voluntarily entered with them. They now determined to sail for the Philippines, in order to intercept the galleon in her return to those islands, and which was to sail from Acapulco some time in January. This was doubtless the most advantageous scheme that could be formed in their circumstances. But in this they were disappointed by the viceroy of Mexico; who, from the intelligence sent by the viceroy of Peru to all the ports on the coast of the South Sea, as well as by expresses dispatched from Guayaquil and Atacames to Panama, deferred sending the ship that year; which the enemy being apprised of, they burnt the Aranzaza, as they had before the other prizes, and continued their voyage towards the Philippines, where by a long perseverance in a most tedious cruise they accomplished their design. For the Acapulco ship returning when all the danger was imagined to be over, fell in with the Centurion, and after a short, though smart engagement, was taken.

But, to re-assume the thread of the narrative, to which I hope this has been no disagreeable interruption. On the fifth of January 1742, I set out from Guayaquil for Quito, being the very worst time of the year for performing that journey; and, as such, I experienced it by several misfortunes. In one of the rivers we were obliged to ford, the two mules which first entered were swept away by the current, and that which carried my portmanteau was lost; and the other, on which an Indian rode and led the former, swam with great difficulty to the shore, and the Indian saved himself by holding fast by the creature's tail; in which manner they were carried near a quarter of a league below the ford. If the travelling up the mountains was not attended with such imminent danger, it was extremely troublesome, a space of about half a league having taken me up from seven in the morning till seven in the afternoon, the mules, though light, falling at every step, nor was it an easy matter to make them rise; and soon after the creatures became so fatigued, they even sunk under their own weight. At length I reached Quito on the nineteenth of the same month; but had hardly alighted from the mules with the hopes of resting myself after these dangers and fatigues, when the president informed me, that three days before he had sent away an express, with letters from the viceroy, directing us to hasten to Lima with all possible expedition; and charging him in particular to provide immediately every thing necessary that our journey might not be a moment delayed. It was therefore no time to think of rest; and, accordingly, after making such provisions as were absolutely necessary, I set out on the 22d of the same month, and a third time crossed that difficult mountain in my way to Guayaquil, where, having joined Don George Juan, who was included in the orders, we travelled night and day, with a dispatch answerable to the governor's impatience, all the towns on the road having received orders to keep beasts in readiness, that we might not be detained a moment; and accordingly we reached Lima the 26th of February. In the meantime, the viceroy had ordered a squadron of four men of war to

to sail from Callao to Panama, for the defence of that place, which touched at Païta, in order to gain intelligence of the enemy's ships, having orders to attack them if possible; but, as we have already observed, they were failed to the coast of Acapulco. On our arrival, the viceroy was pleased to express great satisfaction at our dispatch, and to honour us with several commissions suitable to the exigence of affairs; giving us the command of two frigates which he had ordered to be fitted out for the security of the coast of Chili, and the island of Juan Fernandes, against any reinforcement coming to the enemy. For though Commodore Anson had made no secret of his intentions to the prisoners, and they had eagerly published them, no dependance could be had on informations given out by the enemy himself, and which were the more suspicious as he told them openly. Besides, it was well known, that this squadron originally consisted of more ships; and we were apprehensive, that though the remainder had failed of reaching these seas, yet by perseverance, and a second effort, they might succeed.

Commodore Don Joseph Pizarro had also been disappointed in getting into these seas this year, though he had attempted it in a single ship called the Asia; but was obliged to put back to Buenos Ayres with the loss of one of his masts, and another was carried away just at the mouth of the Rio de la Plata. These disappointments rendered it the more necessary for the viceroy to provide for the defence of the coast of Chili, as all ships must pass near it in their course to Peru.

### CHAP. III. — *Voyage to the Island of Juan Fernandes; with an Account of the Seas and Winds in that Passage.*

AMONG other precautions taken by the vigilant viceroy of Lima for the defence of the South Sea, he fitted out, as we have just mentioned, two frigates for cruising on the coast of Chili; and gave the command of one, called *Nuestra Senora de Belen*, to Don George Juan, and appointed me for the other, called the *Rosa*: they had been both merchant ships employed in these seas, all the King's ships being sent in the Panama squadron. They were between six and seven hundred tons: each carried thirty guns on one deck, and three hundred and fifty men, all picked and expert sailors. The ships were also prime sailors: so that our force was, in all respects, sufficient for the service on which it was employed; and, with the assistance of Providence, would doubtless have answered the viceroy's expectations.

On the fourth of December 1742 we got under sail, intending to steer first to the island of Juan Fernandes. Our course was from south-west one quarter westerly, to south one quarter westerly, according as the winds permitted, which were continually between the east-south-east and south-south-east, but not always of the same strength; sometimes short calms intervened, and, at others, sudden squalls, but did us no great damage. This course was continued till the 27th of the same month, when, being in the latitude of  $30^{\circ}$ , and a little more than  $15^{\circ}$  west of Callao harbour, and the wind at north-west, we altered our course, steering east-south-east, and east, till we made the island without that of Juan Fernandes. This happened on the 7th of January 1743, at three in the evening; the south point of the island bearing north-east, one quarter easterly, and the north-west point north-east. We now continued steering east, one quarter northerly, and the next day, at eleven in the morning, we had sight of the other island, called *De Tierra*, bearing east-north-east. And in the following night, having weathered the north point, we the next day came to an anchor in the bay.

During

During our passage from Callao to the tropic, we had light winds, often interrupted with short calms; but after we had crossed the tropic, they were more settled, stronger, and squally, but not dangerous, being of short continuance. But, as I have already noticed in another part, they always blow from the south-east and never from the south-west, till you are fifteen or twenty degrees west of the meridian of Callao. When we concluded ourselves in the proper latitude for standing towards the islands, and found the wind at north-west, we steered east, in order to reach the meridian of Juan Fernandes. The wind then shifted round from west-north-west to west-south-west and south, and afterwards returned to its usual rhumbs of south-east, south-south-east, and south-east, one quarter easterly. On the 27th of December, the wind again veered to the north-west, and continued so the whole day; the two succeeding days at north-north-west and north-west, but on the 30th veered to the west-north-west. On the 31st it shifted to the south-south-west, and on the 1st of January veered round to the south, south-south-east, and south-east. Those, therefore, who endeavour to gain such winds, stand off from the coast till they fall in with them; and this sometimes happens at a greater distance than at others; I mean during the summer; for in winter a different course is necessary, as we shall explain in the sequel.

The atmosphere of these seas is generally filled with thick vapours to a considerable height: so that often for four or five days successively, there is no possibility of observing the latitude. These fogs the sailors call *Sures Pardos*, and are fond of them, as they are a sure sign that the wind will be fresh and constant, and that they shall not be troubled with calms. At this time it is very common to see the horizon filled with a dark cloud, but of no dangerous consequence, except freshening the wind a little more than usual, and a short shower of rain; the weather, in four or five minutes, becoming as fair as before. The same thing presages the *turbonada*, or short hurricane; for the cloud is no sooner formed on the horizon, than it begins, according to the sailor's phrase, "to open its eye," i. e. the cloud breaks, and the part of the horizon where it was formed becomes clear. These *turbonadas* are most common after you are passed the 17th or 18th of latitude.

Near the tropic, that is, between the parallels of fourteen or sixteen and twenty-eight degrees, calms greatly prevail during the months of January, February, and even March; and in some years more than others; but near the coast they are not so common, on account of the land breezes, which are always between the south-east and east-south-east. Formerly, and even till within these few years, the voyage to and from Callao to Chili, was rarely performed in less than a twelvemonth; owing to a fear of standing off to a great distance from the coast; for by tacking along the shore they made but little way, and, consequently, laid the ships under a necessity of putting into the intermediate harbours for water and provisions; but an European pilot making his first voyage in the usual manner, observed that the course of the currents was from the west and south-west, whence he concluded that winds from those quarters might be found farther off at sea. Accordingly, in his voyage, he stood off to a great distance, in order to fall in with those winds, and had the satisfaction to find that he was not mistaken; so that he reached Chili in little more than thirty days. This being so far short of the usual term, he was suspected of sorcery, and ever after called *Brujo*, a forcerer. From this report, and the evidence of the dates of his papers, persons of all ranks were persuaded that he sailed by magic, and the Inquisition caused him to be apprehended; but, on examining his journals, they applauded his sagacity, and were convinced, that if others did not perform the same voyage with equal dispatch, it was owing to their timidity in not stretching off to a proper distance

distance from the coast as he had done. And thus he had the honour of leading the way in that expeditious course, which has ever since been followed.

In all this passage you have an easy sea, the swell coming sometimes from the south-east, south or east being the points from whence the wind blows; at others, from the south-west and west, particularly after you are ten or twelve degrees from the coast. And it is only near the island of Juan Fernandes that you meet with a hollow sea. The course of the waves is there sufficiently manifest; for, on quitting the coast of Callao to about sixty degrees farther to the south, their course is to the northwards: but from between the parallels of sixteen and twenty degrees, their course is imperceptible; while in higher latitudes they run with some force south and south-west, and with a greater velocity in winter than in summer; as I know from my own experience, having, in my second voyage to Chili, in the year 1744, at the end of October, and beginning of November, taken the greatest care, that the distances between the knots on the log line should be forty-seven Paris feet and a half, for measuring the ship's way; but every day found, that the observed latitude exceeded the latitude by account ten or fifteen minutes. The same observation was made by Don George Juan, in both his voyages; as well as by the captain and officers of the French ship, in which I returned: so that the reality of the course of the sea is proved beyond exception; and, in this manner, it continues to the 38th or 40th degree of latitude.

In the latitude of  $34^{\circ} 30'$  and  $4^{\circ} 10'$  west of Callao, you meet with a track of green water, extending north and south, and along which you sail above thirty leagues. Probably it runs to a great distance in that sea, being found in every latitude to the coast of Guatemala; but not always under the same meridian, winding away north-west. It is also met with in a higher latitude than that of Juan Fernandes; and it has also been observed by ships in their course to Chiloe, or Baldivia.

In this passage, though part of it be at such a great distance from the land, we meet with a kind of birds called Pardelas, which distinguish themselves from all other species, by venturing so far from the land. They are something larger than a pigeon; their bodies long; their necks short; their tails of a proper proportion, and their wings long and slender. There are two sorts of these birds, and of different colours, one parda or brown, from whence they derive their name; the other black, and called Pardela Galinera, but in other circumstances they are entirely the same. A smaller bird is also seen in these seas, called Alma de Maestre; it is white spotted with black, and has a long tail; but it is not so common as the Pardelas: they are most frequent in stormy weather. Within ten leagues of the islands of Juan Fernandes are seen some balenatos, or small whales; and at near the same distance, sea-wolves; but the latter seldom go from the shore.

Though this sea has not been improperly dignified with the appellation of Pacific, with regard to the interval between the tropics; yet that particular cannot with any justice be applied to it, if considered in its whole extent; tempestuous weather being equally common in the latitudes of twenty and twenty-three degrees in the South Sea, as in the oceans of Europe; and in higher latitudes storms are more frequent and violent. I am inclined to think that the first Spaniards gave it the name of the Pacific Sea, from their being greatly pleased with its smoothness, and the gentleness of the winds in their first voyages, concluding that it was so in every part; but the fury of the winter storms, and the roughness of the sea, which are equal to those in any other parts, abundantly demonstrate that they formed a judgment too hastily.

Along these coasts and the adjacent sea, the winter begins at the same time as at Lima; that is, in the month of June lasting till October and November; but its greatest

violence is past in August or September. During the whole winter season there is no dependance on being safe from storms, which rise with a sudden rapidity; and in all latitudes beyond forty degrees, the winter sets in considerably sooner, even at the beginning of April, and is also observed to last longer.

The winter in all latitudes beyond twenty degrees is ushered in by northerly winds. They are not indeed fixed like those of the south, though common to the season. They always blow with great violence, but not always with the same degree, being less strong in the beginning than in the depth of winter, when their rage strikes the most resolute with horror, and raises such enormous waves, that the atmosphere is crowded with vapours, and these turn to a drizzling rain, which lasts as long as the storm continues. It often happens that these violent north winds, without the least sign of an approaching change, shift round instantly to the west, which change is called the *travesia*, but continue to blow with the same force. Sometimes indeed this sudden change is indicated by the horizon clearing up a little in that quarter; but in seven or eight minutes after the appearance of this small gleam of light, a second storm comes on; so that when a ship is labouring against the violence of a storm from the north, the greatest care must be taken, on the least appearance, to prepare for the *travesia*; indeed its rapidity is often such as not to allow time sufficient for making the necessary preparations, and the danger is sufficiently evident if the ship has her sails set, or is lying-to.

In the month of April 1743, in the latitude of forty degrees, I had the misfortune of experiencing the fury of a storm at north, which lasted in its full violence from the 29th of March till the 4th of April. Twice the wind shifted to the *travesia*, and veering round to the southward, returned in a few hours to the north. The first time it shifted to the west, the ship, by the vortices formed in the sea by this sudden opposition to the course of its waves, was so covered with water from head to stern, that the officers who were on the watch concluded she had foundered; but fortunately we had our larboard tacks on board, and by a small motion of the helm, the ship followed the change of the wind, and brought-to without receiving any damage; whereas we should otherwise in all probability have been lost. Another circumstance in our favour was, that the wind was some points to the westward of the north. For though these winds are here called *nortes*, they are generally between the north and north-west, and during their season, veering in small squalls to the north, and in others to the north-west. Sudden calms also often intervene; but if these happen before the wind has passed the *travesia*, it returns in about half, or at least an hour with redoubled fury. These dangerous variations are however indicated by the thickness of the atmosphere, and the dense clouds in the horizon. The duration of these storms is far from being fixed or regular, though I well know some pilots here will have it, that the north wind blows twenty-four hours, and then passes to the *travesia*; that it continues there with equal violence three or four hours, accompanied with showers, which abate its first violence; and that it then veers round till it comes to the south-west, when fair weather succeeds. I own indeed that I have in several voyages found this to be true; but at other times I experienced, that the successive changes of the wind are very different. The storm at north I before mentioned, began March the 29th, at one in the afternoon, and lasted till the 31st at ten at night, which made fifty-seven hours; then the wind shifted to the *travesia*, where it continued till the 1st of April without any abatement, that is, during the space of twenty-two hours. From the west, the wind veered round to the west-south-west and south-west, still blowing with its former violence. Hence a short calm succeeded; after which, it a second time shifted to the north, where it continued blowing with its former fury fifteen or twenty hours; then came on a second *travesia*;

and soon after its violence abated, and the next night shifted from south-west to south-east. Thus the whole continuance of the storm was four natural days and nine hours; and I have since met with others of the same violence and duration, as I shall mention in their proper place. What I would infer from my own experience, confirmed by the information of several pilots, is, that the duration of these storms is proportional to the latitude; being between twenty and thirty degrees, neither so violent nor lasting as between thirty and thirty-six; and still encreasing in proportion as the latitude is greater.

These winds have likewise no regular or settled period, the interval betwixt them being sometimes not above eight days; at others much longer; nor do they always blow with the same violence; but are most uncertain in the winter, rising suddenly when least expected, though not blowing always with the same force.

In this sea a change of the wind from north to north-east, is a sure sign of stormy weather; for the wind is never fixed in the north-east, nor does it ever change from thence to the east, its constant variation being to the west or south-west, contrary to what is seen in the northern hemisphere. Indeed in both the change of the wind usually corresponds with the course of the sun; and hence it is, that as in one hemisphere it changes from the east to south, and thence to the west, conformably to the course of the luminary, so in the other it changes for the same reason, from the east to north, and afterwards to west.

It is an old observation among the pilots of this sea, that a day or two before the north wind begins to blow, there is always seen along the shores, and about the ships, a sort of sea fowl called *Quebrantahueñas*, i. e. ossifrage, or break-bones. These birds seldom appear at other times. I am little inclined to believe, much less to propagate any vulgar report: but here I must declare, that after repeated observations, in order to discover the truth or falsity of this assertion, I always saw them before every storm I met with here; and sometimes even a day before, when there was not the least appearance of the wind's coming about to the north, and as the winds increased, great numbers of them gathered about the ship, sometimes flying round her, at others settling on the waves, but always kept near the ship, till fair weather returned. It is still more singular, that they are never seen either on the sea or land, except in stormy weather; nor is it known where they hide themselves when is it fair, that they should so immediately cover, as it were, the sea, when their natural instinct informs them of the approach of a north wind.

This bird exceeds the size of a large duck, has a short thick arched neck, with a large head and a thick but short bill, a small tail, a rising back, large wings and small legs. They are by their plumage divided into two different kinds, one being white, spotted with dark brown, and the upper part of its wings entirely of the latter colour: the breast of the other, together with the inside of the wings, the whole head, and the lower part of the neck, is white; but the back, the upper parts of the wings and neck, of a very dark brown, and are hence called *Lamo prieto* (Black-backs). The last kind are by the pilots accounted the most certain sign, the others being often seen without any alteration of weather immediately succeeding. I well knew a pilot here, who was a native of Callao, a man of indefatigable curiosity and exactness, never omitting to insert in his journals the most minute circumstances. His name was *Bernardo de Mendoza*, and with him these fowls were considered as so sure a sign, that when he was in any of these ports, and his ship ready to put to sea, it was his constant custom to take a walk on the shore, to see whether he could perceive any of them in the offing; and if he did, he

continued in the harbour till the tempest was over ; and he assured me that his conforming to this observation had been of the greatest advantage to him ; relating, in confirmation of his opinion, that being once at Baldivia, the governor, so far from regarding his apprehensions from such presages, turned them into ridicule, and insisted on his putting to sea, but was soon convinced that these omens were not chimeras ; for the vessel was hardly out of the harbour, when a storm at north came on with such violence, that it was with the utmost difficulty she was saved from being wrecked in that bay ; and this would infallibly at last have been the consequence, had the storm continued some time longer ; for, even when the wind abated, they found it hardly possible to carry her into the harbour to repair the damages she had received.

Other observations relating to these northerly winds are, that they always blow when the Sures are in their strength, in the higher latitudes, and also between the parallel of  $20^{\circ}$  and that of Panama, it being then winter in those climates ; and are also found in latitudes beyond  $20^{\circ}$ , but never nearer to the equinoctial. Another observation is, that during the time of the brisas, between Panama and the equinoctial, these winds are never felt in any part of the Pacific Sea, the south winds alone prevailing there. Lastly, it is observed, that within thirty or forty leagues of the coast of Chili, while one part is agitated with storms at north, the south winds freshen in another. This, however singular it may appear, is no more than what was experienced by the three ships, Esperanza, Belen, and Rosa, which being at the mouth of the Bay of Conception, the latter took her leave of them, and bore away with a fresh gale at south to Valparaiso, whilst the others who steered for the islands of Juan Fernandes, were overtaken in their passage by a storm at north.

As in summer the south winds generally shift between the south-south-east and east-south-east, so in winter they continue for some time between the south-west and south ; consequently there is a necessity, in the latter season, to stand out to such a great distance from the coast in quest of them, as must be done in summer.

#### CHAP. IV. — *Account of the Islands of Juan Fernandes. Voyage from those Islands to Santa Maria, and from thence to the Bay of Conception.*

THE islands of Juan Fernandes, which, on account of their situation, belong to the kingdom of Chili, are two in number ; one, as lying farther to the west, is distinguished by the epithet De Afuera ; and the other, as nearer the land, or to the eastward, is called La de Tierra. The former, which is something above a league in length, is nearly of an oval figure, and the land very high, so that it has the appearance of a round mountain ; and its steepness on all sides renders it every where almost inaccessible. Several large cascades tumble from its summit, and the water of one of them, after a succession of long falls among the rocks on the south-west side of the island, precipitates itself into the sea with such amazing impetuosity, that its froth may be seen at three leagues distance. The longitude of this island, according to the reckoning of Don George Juan, admitting the currents to set towards the south-west, is  $3^{\circ} 20' W.$  from the meridian of Callao ; but, according to my computation,  $3^{\circ} 27'$ . By the coast we steered from the meridian De Afuera till we reached La de Tierra, we concluded the distance between those islands to be thirty-four leagues.

The island De Tierra, which is four hundred and forty leagues to the north of Cape Horn, is between three or four leagues from east to west, which is its greatest length.

It is for the most part high land, but not destitute of some plains, though these are part of the mountains themselves. Its valleys are full of trees, and some of them an excellent timber. Here is likewise the piemento tree, resembling the chiapa in New Spain. The plains and little hills produce a sort of straw, resembling that of oats, and growing higher than the usual stature of a man. The waters, of which several streams fall from the eminences into the sea, is very light, creates an appetite, and, among other medicinal qualities, is excellent against indigestion. Here are many dogs of different species, particularly of the greyhound kind; and also a great number of goats, which it is very difficult to come at, artfully keeping themselves among those crags and precipices, where no other animal but themselves can live. The dogs owe their origin to a colony sent thither, not many years ago, by the president of Chili, and the viceroy of Peru, in order totally to exterminate the goats, that any pirates or ships of the enemy might not here be furnished with provisions. But this scheme has proved ineffectual, the dogs being incapable of pursuing them among the fastnesses where they live, these animals leaping from one rock to another with surprising agility. Thus far, indeed, it has answered the purpose; for ships cannot now so easily furnish themselves with provisions here, it being very difficult to kill even a single goat.

Very few birds frequent this island; and, though we found several white feathers on the ground, and also parts of carcases, which seemed to have been gnawed by the dogs, we saw but very few flying, and those wholly black. It is not indeed improbable but these islands may be the winter retreats of some kinds of birds, which on the approach of summer remove to another climate.

In this island are mountains of a great height; and the sides of those towards the north are covered with trees of good timber: but few or none are seen on those of the south part, except in the breaches and valleys, owing doubtless to the piercing violence of the south winds, which destroys them or checks their growth. On the other hand, every part is covered with tall grass or straw, already mentioned. Among the various sorts of trees with which the island is decorated, there are none of the American fruit-trees, owing to the coldness of the climate, which is increased by the violence of the winds, so that even the heats of summer are moderate.

In this island are three harbours or bays; but those on the west and east sides have only water sufficient for small vessels, so that the only one proper for large ships is that on the north, or rather north-east, side of the island. The latter, which is properly called Juan Fernandes, consists of a bay formed by the coast, but exposed to the north and north-east winds, so that in winter no ship can lie safely in it; and even in summer it is not free from danger, on account of the great depth of water; for within the distance of a cable's length or two from the shore it has fifty fathoms, and growing deeper as the distance increases. To this must also be added the badness of the ground, which being of sand, and a tenacious mud, mixed with shells and gravel, the cables are greatly rubbed by it, and consequently the anchorage unsafe. The ships are also exposed to continual squalls caused by the Sures, which produce a very troublesome sea; violent currents likewise set into the bay, and form dangerous eddies. Lastly, the steepness of the coast renders it very difficult to be approached on account of the dashing of the waves against it; and accordingly the only ships that put into this port are such as belong to pirates, or the enemy, this island being the sole refuge for them in the South Seas: and they expose themselves to these dangers, merely through the necessity of taking in water and wood, refreshing their crews, and furnishing themselves with fish, which is caught here in great abundance.

These foreign ships, which, in order to refresh their crews after the fatigues of so long a voyage, and the dangers of weathering Cape Horn, make for the harbour of Juan Fernandes, are very careful to secure themselves against the above-mentioned dangers, and therefore sail up to the farthest part of the bay, where they moor with an anchor in the water, and another on the south-west shore. But even this precaution is not sometimes sufficient to secure them, as appears from the wrecks of three ships; two of which have been long there, but the other of a more recent date.

The island De Afuera is every\*where prodigiously high land, and the shores so steep and craggy as to afford no convenient landing-place; which, together with its having no harbour, prevents all ships, whether those of the enemy, or the country, from touching at it.

The sea, all around the island De Tierra, may be said to be filled with sea-wolves, of which there are observed to be three principal species; the first are small, not being above a yard in length, and their hair a dark brown: those of the second are about a toise and a half in length, and of a greyish brown colour: and those of the third are in general two toises in length, and the hair of a pale ash-colour. The head of these creatures is too small in proportion to the rest of their body, and terminates in a snout; which, bearing a great resemblance to that of a wolf, they have acquired the name. The mouth is proportioned to the head; but the tongue is very thick, and almost round. They have a row of large pointed teeth in each jaw, two thirds of which are in alveoli or sockets; but the others, being the most hard and solid, are without them. This threatening appearance is heightened by whiskers, like those of cats, or rather tygers. Their eyes are small; and their ears, from the root to the extremity, not above six or eight lines in length, and of a proportional breadth. Their nostrils are also very small, and the only parts destitute of hair, these having a glandulous membrane, like the same part in dogs. This creature has two fins, which serve them both for swimming in the water, and for walking on the ground. The tail, which is every where equally cartilaginous, is of a length proportional to the body, but much thicker than those of the generality of fish. They carry it horizontally; so that by inverting the last vertebræ, where the articulations are more flexible than in other parts, they form of it a kind of hind feet; and at the same time the fins helping them before, they walk without trailing the body along the ground. A remarkable particular in the formation of this amphibious creature is, that in both the fins and the extremity of the tail there are protuberances resembling fingers; they are small bones or cartilages inclosed within those callous membranes which cover the fins and tail. These fingers they can expand so as to cover the whole breadth of the fin; and thus form, as it were, the sole to tread upon. At the end of each is a nail, of about two lines in length, and half a line in breadth.

Among the several articulations in the fins, are two very remarkable, one at the junction of the omoplate, where it forms a kind of shoulder, and the other at the extremity of the fin, where the fingers are connected. The same economy is observed in the tail, and thus they are adapted to an amphibious life: accordingly, though not with a celerity equal to that of quadrupeds, they climb up steep rocks of a height one would think impracticable to such creatures, as they are absolutely so to men; and come down again with the same ease, notwithstanding their great bulk and fatness, which is such in the larger species, that their diameter at the fins is little short of a yard and a half.

Their organs of generation are placed at the lower extremity of the belly, and at the time of coition the male and female place themselves on their tails, with their faces

inward, embracing each other with their fins, which, on this occasion, supply the place of arms. The female brings forth and suckles her young in the same manner as terrestrial creatures, but has never above one or two at a time.

The largest species are by some called sea-lions, but in these seas their general name is Lobos de Aceyte, or oil-wolves: because when they move, they appear like a skin full of oil, from the motion of the vast quantity of fat, or blubber, of which their enormous body consists. And though oil is made from all the species, none yield it in proportion to these; indeed they consist of little else. I was once entertained with a particular circumstance relating to this species. A sailor having wounded one, it immediately plunged itself into the sea; but had hardly tinged the water with its blood, when it was surrounded in an instant by shoals of the other two species, who attacked and devoured it in a few minutes, which was not the case with the other species; which, when wounded, though they also plunged into the water, yet the sight of their blood had no effect on others; nor were they ever attacked. They are mischievous, and their bite the more dangerous, as they never let go their hold; but they are heavy, torpid, and sluggish; nor can they turn their heads without great difficulty. They were so far from avoiding our men, that they were obliged to strike them with sticks to make them move out of their way. The cry of their young very nearly resembles the bleating of a sheep; but when they all join, as it were in concert, the noise is insupportable. They are the chief food of the dogs, who, after killing them, take off their skin with great dexterity. In their attack, they aim always at the throat; and when they have destroyed the creature, they tear the skin all round the neck; then seizing it by the head, and putting their fore-feet between the skin and the flesh, they strip it entirely off, and then devour the carcase.

The largest kind, as we have already observed, are, by the sailors, called sea-lions, the hair of the neck distinguishing them from the others, and has some resemblance to a mane, though not much longer than that on the other parts of the animal; but as their whole body has a greater similarity to that of the wolf, and being entirely like the other species, the name of sea-wolf seems to be more proper than that given them by the seamen.

All these kinds of sea-wolves have so tender a sensation at the extremity of their nostrils, that though they will bear many wounds in other parts of the body, the slightest stroke on this dispatches them; and that they are sensible of it, is evident from their making it their chief care to defend that part from any violence.

A great singularity is also observable in the dogs of this island, namely, that they never bark. We caught some of them, and brought them on board; but they never made any noise till joined with some tame dogs, and then indeed they began to imitate them, but in a strange manner, as if learning a thing not natural to them.

The islands of Juan Fernandes abound greatly in fish, among which are two species, not observed in any other part of this vast sea. One is the cod, which, though not absolutely like that of Newfoundland, the difference is very minute, either with regard to colour, form, taste, and even the small scales observable on that fish. They are of different sizes, but the largest three or four feet in length.

The other species is a fish resembling the tollo in shape, but much more palatable. From the fore part of each of the two fins on his back, grows a kind of triangular spur, a little bent, but round near the back, and terminating in a point. It has a fine gloss, and the hardness of a bone. At the root of it is a soft spongy substance. This spur, or bone, for it resembles both, is such a present remedy for the tooth-ache, that,

that, the point of it being applied to the part affected, it entirely removes the pain in half an hour. The first account I had of this singular virtue was from a Frenchman, who was my pilot; but as reason would not permit me to give credit, without experience, to a circumstance seemingly so void of probability, the asseverations of the man increased my desire of putting it to the proof, which I did several times, and always with success. I did not fail to communicate a discovery of such great benefit; and accordingly several of my acquaintance, who laboured under that excruciating pain, made trial of it, and found from it the same happy effects; with this particular circumstance, that soon after the application of the bone to the part affected, it became insensible of pain, a drowsiness succeeded, and they awaked free from the torture. I observed that the spongy substance at the root, during the operation, became gradually inflated, and softer than in its natural state, which could not be effected solely by the moisture of the mouth, the part put into it being compact, hard, and smooth as ivory. I am therefore inclined to think, that it has an attractive virtue, which extracts the morbidic humour, and collects it in the root. The common length of these anodyne spurs, or bones, is two inches and a half, of which one moiety, together with the root, is within the body of the fish. Each face of the triangle is about four lines in breadth. They are taken in the same plenty as the others.

The abundance of fish about these islands is such, that two hours fishing in the morning, and as many in the evening, with only six or eight nets, procured not only a sufficiency for all the ship's company, but a considerable quantity remained for salting. The chief kinds are cod, berrugates, the spur-fish, sole, turbot, jureles, and lobsters; besides an infinite number of small fish, which covered the water; a circumstance the more surprising, as there are such multitudes of sea-wolves all along the coast, which live on nothing else. For though there is very little fishing near these islands, yet doubtless the constant ravages of such enormous creatures may be thought at least equal to the capture of a large fishery.

These several species are all so delicate and palatable, that the epicure would be at a loss which to prefer. The lobsters are often half a yard in length, and are taken even with greater ease than the others. They are of an exquisite taste, though the meat is something hard. The berrugate is a large scaly fish.

We continued at anchor near this island till the 22d of January; during which time, we reconnoitred every part of it, and particularly visited the place where the English had erected their tents, in order to discover any private signal they might have left for the information of any other ships that should afterwards touch at this island. The president of Chili had, with the same view, sent a ship hither some months before our arrival; but all they met with was two bottles, in each of which was a writing in cypher; and all we discovered were the piquets and poles of the tents; with their small wooden bridges for crossing the breaches, and other things of that kind. Both our frigates having taken in water and wood, we sailed at three in the afternoon for the island of Santa Maria, which we made on the 5th of February, and after carefully surveying it on all sides, continued our course till half an hour after seven of the same day, when we came to an anchor at Puerto Tome, on the east side of the bay of Conception.

At our departure from the island of Fernandes, we steered first east one quarter southerly, and the winds continuing between the south and south-east, we tacked on the 23d, and steered between the west-south-west and south-south-west, but on the 28th, being in the latitude of  $35^{\circ} 33' 30''$ ,  $33' 30''$  south latitude, and a degree west of the meridian De Asuera

Afuera de Juan Fernandes, we observed the winds to shift from south to south-west. Accordingly we altered our course, steered east and east-south-east till the 31st day, when we found ourselves in the latitude of  $36^{\circ} 23'$  and about fifteen or twenty leagues north-west of the bay of Conception. But the weather, which had been the same also the day preceding, was so hazy, that we could not see the other frigate. Sometimes indeed we discerned the colours, but without having any sight either of the hull or mast\*. This was however sufficient to assure us that they were within half a cannon shot of each other. This, and our being something to leeward of the bay, obliged us to stand to some distance off to sea; and thus we kept along the coast without venturing to approach it till the 5th, when at half an hour after nine in the morning, the weather cleared up, and gave us sight of Cape Carnero, bearing south-south-east ten or twelve leagues: and the middle part of Santa Maria, north-east one quarter northerly. We crowded all sail towards the latter, and at eleven the frigates lay-to, Cape Rumena bearing south one quarter easterly distance four leagues, and Cape Lavapies east one quarter north-east, distance two leagues. The south point of the island of Santa Maria bore north-east four leagues distant, the north point of the same island north-north-east and a large rock without, north one quarter easterly. Here we sent our long-boat with orders to go betwixt the islands and the continent, and take a survey of it, and then join us in Conception bay. Accordingly the frigates got under sail at twelve at noon, with a fresh gale at south-south-east and soon after came to an anchor in the said bay.

Don George Juan, from his reckoning, concluded that the island of Santa Maria, which lies in  $37^{\circ} 3'$  south latitude, was  $7^{\circ} 10'$  east of the island De Afuera de Juan Fernandes. Whereas I differed  $0^{\circ} 14'$  from him, making it only  $6^{\circ} 56'$ .

To the north-west of this island, at the distance of a league and a half, is a lofty steep rock with several smaller at its foot; and one league and a half farther to seaward, also on the north-west side of the island, is a shoal, which, though we at this time saw no breakers on it, we took care to keep at a proper distance. And in my second voyage, in the year 1744, I had a clear view of it, for I not only saw the breakers, it being then low-water and the sea running high, but also a reef of rocks at the water's edge. The country pilots have assured me, that by steering in the middle between this shallow and the rock, there is a very safe channel, having in most parts fifty or sixty fathom water.

In my second voyage above-mentioned, on board a French frigate called La Delivrance, in the latitude of  $36^{\circ} 54'$  and  $2^{\circ} 24'$  west of the island of Santa Maria, about half an hour after making our observations, we unexpectedly found ourselves in a tract of thick water of a yellowish colour; which, naturally occasioning a great surprise, we started from the table, being then at dinner, and hastened up to the quarter-deck. It was now too late to put the ship about; she being in the very centre of it. This shoal, as it appeared to us, stretched near two leagues from north to south, and was about six or eight hundred toises over from east to west. The colour of the water was of so deep a yellow, that, after Providence had happily carried us through it, we could easily distinguish it at a considerable distance. I must own, our consternation was such, from our concluding we were on a shoal, as there was all the appearance of it, that we had no thoughts of bringing the frigate-to, till we had got our sounding line in order. In some parts the water was of a deeper yellow, as being more

\* This I suppose is a mistake, and ought to be read thus; sometimes we saw the looming of the sails, but could not perceive the hull. A.

shallow. In others we could perceive rays of sea or green water, intermixed with that of the shoal. No chart has taken any notice of it; nor was it indeed before known to any of the pilots of these seas, as they themselves acknowledged, notwithstanding their repeated voyages. We should therefore have been guilty of a great indifference with regard to the public safety, had we neglected to have given this account of it.

The general winds, between the islands of Juan Fernandes and this place, are the same as those which reign in the gulph; and which have been already described; but the currents are different, setting north-west; and this becomes the more perceivable in proportion as you approach nearer to the coast. From the island De Tierra de Juan Fernandes eastward, the water is greenish, and westward blueish. This I have myself observed several times, even when not in sight of the island; and also that the colour of the water changes with the meridian. Between the islands and the continent I have frequently seen the water spouted up by the whales; an appearance which has been often taken for breakers.

Within twenty or thirty leagues of the coast, we met with large flights of curlews; but this distance is the utmost limit of their excursions. These birds are of a middling bigness, mostly white except the breast and upper part of the wings, which are of a rose colour. Their heads are proportionate to their bodies, but their bill very long, slender and crooked; and as small at the root as at the point. They fly in vast troops, and consequently are easily known.

The coasts in general of this sea, from Guayaquil to the southward, are very difficult to be seen, except in summer time, being the whole winter covered with such thick fogs, that no object can be discerned at half a league distance. And this dangerous haziness extends often to the distance of fifteen or twenty leagues off to sea. But during the night, and till about ten or eleven in the morning, the fog is only on the land. At that time it moves farther to seaward, with a prodigious density, resembling a wall, totally concealing every object on the other side of it: and the cautious mariner forbears to make his way through it, being uncertain whether he shall meet with clearer weather, as he approaches nearer to the coast.

These winter fogs on the coast of Chili, seem to be occasioned by the north winds; they being observed always to thicken when those winds blow, and though the atmosphere be clear when the wind shifts to that quarter, it is instantaneously filled with those vapours; which continue without any diminution, till the south winds set in, and have blown fresh for two or three days successively. But as in winter they are usually interrupted by the winds at north-west and south-west, these vapours, so inconvenient to commerce, are seldom totally dispersed; and it is a common phrase among the mariners of these parts, that the north is a filthy wind on account of the disagreeable vapours, with which it is loaded, and the south is a cleanly wind, sweeping these nuisances from the coast and country, and purifying the air. I call these winter fogs, as they are equally common all along the coast from the parallel of twenty to the equinox, where no north winds are known. And as I have already related of Lima, all the inhabitants of the coast live, during the winter, in a perpetual fog.

I shall conclude this chapter, with a table of the variations of the needle observed in my second voyage, in the frigate *La Delivrance*, from Callao to Conception Bay.

South Latitude.		Longitude from Callao.		Variations, and their Kinds.	
Degrees.	Minutes.	Degrees.	Minutes.	Degrees.	Minutes.
22	13 $\frac{1}{2}$	351	03	7	58 E
25	37 $\frac{1}{2}$	349	51	9	22
28	27	348	46	9	42
32	10	350	45 $\frac{1}{2}$	9	58
32	52 $\frac{1}{2}$	351	14 $\frac{1}{2}$	9	06
33	51 $\frac{1}{2}$	352	32	10	00
35	06	354	39 $\frac{1}{2}$	11	10
36	57	000	47 $\frac{1}{2}$	11	15

Don George Juan, who sailed from Callao, with the *Delivrance*, as commander of the *Lys*, another French frigate, made the following observations:—

South Latitude.		Longitude from Callao.		Variations, and their Kinds.	
Degrees.	Minutes.	Degrees.	Minutes.	Degrees.	Minutes.
12	06	000	00	8	52 E
12	50	359	00	7	48
23	00	350	00	6	00
25	30	349	15	5	00
27	00	348	30	5	15
30	45	349	00	6	00
33	30	352	20	7	10
Without the Island of Juan Fernandes.					
33	50	356	00	8	30
33	40	000	00	10	30
33	45	002	00	10	45
On the Coast of Valparaíso.					
33	20	005	00	12	30

The sensible difference between these variations arose from the difference of the needles, by which they were observed; and the reasons for that difference have been considered in another place.

The difference of the meridians between Callao and Conception, appears from the series of observations made by us at Lima, and those by Father Feuillée, at the same place, to be 3° 58', which is the eastern distance of Conception from Callao, yet in the maps of this country, it is placed eight or nine degrees to the eastward, a mistake

proceeding from a want of attention in the pilots in observing the direction of the currents; and as these carry the ship towards the south-west, the pilots, when in the offing, begin to compute their distance from the coast. But this being in reality much greater than that given by the rhumb, they are afterwards under a necessity of steering towards the east, and thence their reckoning makes the port farther to the eastward than it really is; and the currents running sometimes with a greater velocity than at others, pilots often differ in placing the meridian of Concepcion, so that very few at first make the Cape, though assisted by that chart, which they consider as the best. For all these draughts are laid down from the false conclusions of erroneous journals, no allowance having been made for the setting of the currents. The difference of latitude proves, beyond contradiction, the reality of the currents, and the degree of their velocity, as I have already noticed.

On the 26th of January, the *Esperanza*, a Spanish frigate, commanded by Don Pedro de Mendinueta, came to an anchor in the harbour of Talcaguano, after her voyage from Monte-Video in the river of Buenos Ayres, round Cape Horn, which she had performed in sixty-six days. On our arrival at Puerto Tome, an officer came on board the *Belin*, the very same night we came to an anchor; and the day following, being the sixth of February, our two frigates joined the *Esperanza* at Talcaguano, and formed a little squadron under the command of Don Pedro de Mendinueta, according to orders from the Viceroy, who had received an account that the *Esperanza* lay ready at Monte-Video, to proceed on her voyage that summer into the South Sea, and that Commodore Don Joseph Pizarro, with other officers, were travelling over-land to Santiago de Chili; which he had reached at the time of our arrival.

CHAP. V. — *Description of the City of Concepcion, in the Kingdom of Chili; with an Account of its Commerce, and the Fertility of the Country.*

CONCEPTION, otherwise called Penco, was first founded by Captain Pedro de Valdivia, in the year 1550. But the powerful revolts of the Indians of Arauco and Tucapel, obliged its inhabitants to remove to Santiago. They cannot, however, be charged, with having quitted their settlement, till they had been defeated several times by the Indians, in one of which they lost the above-mentioned Pedro de Valdivia, who, as governor of that kingdom, was commander-in-chief of the forces employed in the conquest of it. The same unhappy fate also attended Francisco de Villagra, who, as Valdivia's lieutenant-general, had succeeded in the command. These misfortunes, and the superiority of the allied Indians, obliged the Spaniards to abandon Concepcion. The inhabitants, however, being desirous of possessing again their plantations in the neighbourhood of that city, and of which they used to make such large profits, petitioned the audience of Lima for leave to return to their original city; but had soon sufficient cause to repent of not having exerted their industry in improving the place whither they retired; the Indians, on the first notice that the Spaniards were returned to the city, forming a powerful alliance under a daring leader, called Lautaro, took by storm a small fort, which was the whole defence of the city, and put all to the sword, except a small number who had fortunately escaped to Santiago. Some time after, Don Gracia de Mendoza, son to the Viceroy de Mendoza, Marquis of Canete, arriving as governor of Chili, with a body of forces sufficient for making head against the Indians, restored the inhabitants of Concepcion to their former possessions, with the greatest apparent security. But the year 1603 gave birth to a new and more general

confederacy, by which means Conception, La Imperia, and Baldivia, with six smaller places, were destroyed; being the greatest part of the places in this kingdom. Conception, however, received fresh succours, the city was again repaired, and has continued ever since.

Its latitude, according to an observation we made in the year 1744, at Talcaguana, which lies exactly east and west with the city, is  $36^{\circ} 43' 15''$  south, and its longitude from the meridian of Teneriff, according to Father Fevillée,  $303^{\circ} 18' 30''$ . The city is built on the south-west shore of a beautiful bay, on an uneven sandy ground, and on a small declivity, having a little river running through it. The city, in its extent, is scarce equal to one of the fourth class. The destruction it suffered in the dreadful earthquake of 1730, occasioned all the houses to be built low, though it had before been subject to these sudden convulsions of nature. This was, however, the last of those remarkable for their melancholy consequences, which extended to Santiago, the capital of the kingdom, which was involved in the same ruin. On the 8th of July, at one in the morning, the first emotions were felt, and the concussions increasing, the sea retreated to a considerable distance; but in a small time returned so impetuously, and with such a swell, that it overflowed the whole city, and the neighbouring countries. In this sudden calamity, the inhabitants had no other asylum than the neighbouring eminences. This inundation was soon succeeded by three or four shocks; and, at about four in the morning, a little before day-break, the concussions returned with the most tremendous violence, demolishing the few buildings which had withstood the first shocks, and the rapid motion of the sea.

The houses are all either of topias, or mud walls, or adoves, unburnt bricks; but covered with tiles. The churches are small and mean; the same may be said of the Franciscan, Augustine, and Dominican convents, as well as those belonging to the fathers of Mercy: but the college of Jesuits is not wholly destitute of elegance, being well built, and of a tolerable architecture.

The political government of this city consists of a corregidor, nominated by the King, and who is at the head of the ordinary alcaldes and the regidores. During the vacancy of this post, the duty is performed by the president of Chili, who is governor, and captain-general of the whole kingdom, and president of the audience of Santiago, on which, as its capital, Conception is dependent. The court of audience was originally established in the latter, and continued there from the year 1567 to 1574; but the danger and disturbances, occasioned by the frequent revolts of the Indians, caused it for a while to be suppressed, and afterwards to be removed to the city of Santiago. The president is, however, obliged to reside six months of the year at Conception, that he may attend carefully to the military concerns of the frontiers, see that the forts be in a good condition, and well provided with every thing, in order to keep the Indians of Arauco in awe, and that the military forces are in good order, and well disciplined, and always in readiness to repel any attempts of the Indians, provided they should ever abandon their dread of the Spanish troops. During the other six months, when the governor resides at Santiago, he acts in a very different character; hearing complaints, redressing grievances, and administering justice, that this tribunal may receive the greater dignity from his presence. Here is also a chamber of finances, at the head of which is an accountant and treasurer. Besides which, Conception has likewise all the other courts and offices usual in the cities of South America.

As all the inhabitants of the towns, villages, and country, within the jurisdiction of Conception, form different bodies of militia, some of which are in pay, and all must be ready on any sudden alarm, there is, besides the corregidor, a *Maestra de Campo*, who

who commands in all the military affairs without the city ; but we shall have occasion to give a farther account of his duty in the sequel.

This city at first belonged to the diocese of Imperial ; but that being ruined by the perpetual incursions of the Indians, the episcopal see was removed to Conception, and the chapter changed. It is now a suffragan of Lima, and has a chapter consisting of a bishop, dean, archdeacon, and two prebendaries.

The jurisdiction of Conception extends from the river Maule on the coast north of the city to Cape Lavapies. It has few villages ; but the whole country is full of seats, farms, and cottages.

The inhabitants consist of Spaniards and Mestizos, who in colour are hardly distinguishable from the former ; both being very fair, and some have even fresh complexions. The goodness of the climate, together with the fertility of the country, have drawn hither many Spanish families, both Creoles and Europeans, who live together in that harmony and friendship, which should be an example to the other parts of these provinces ; where the comforts of society are greatly lessened by the feuds arising from a mean pride and jealousy. The men in general are well-shaped and robust, and the women handsome. Their customs and dress are a kind of compound of those of Lima and Quito, but more nearly resemble the latter, except that the men use, instead of a cloak, a poncho, which is made in the form of a quilt, about two yards and a half or three in length, and two in breadth, having an opening in the middle just sufficient to put their head through, the rest hanging down on all sides. This is their dress in all weathers, whether walking or riding. The peasants, whom they call Guafos, never pull it off but when they go to rest, tucking it up in such a manner, that both their arms and whole body are at full liberty either for labour or diversion. This is an universal garb among all ranks when they ride on horseback, an exercise very common here ; and the women are particularly famous for their skill in horsemanship.

This dress, though so plain and uniform in itself, serves to distinguish the rank and quality of the wearer ; as its price is proportional to the work on it. Some wear it as a covering, some for decency, and others for shew. Accordingly if those of the common people cost only four or five dollars, others have stood the owners in an hundred and fifty, or two hundred. This difference arises from the fineness of the stuff, or from the laces and embroidery with which they are decorated. They are of a double woollen stuff, manufactured by the Indians, and generally of a blue colour, embroidered with red or white, sometimes indeed the ground is white, embroidered with blue, red, and other colours.

The peasants are surprisingly dexterous in managing the noose and lance ; and it is very seldom, that, though on full speed, they miss their aim with the former. Accordingly these are their chief arms, and they will halter a wild bull with the same agility as any other creature ; nor could a man, however cautious, avoid being taken in their noose. I shall relate an instance of their address, with regard to an Englishman whom we knew at Lima. He was in the long-boat of a privateer, then lying in Conception bay, intending to land at Talcaguano, with a view of plundering the neighbouring villages ; but a body of the country militia made to the shore in order to oppose them. Upon this, the English fired upon them with their musquetry, imagining that would be sufficient to put them to flight, and thus the place be open for them to land. They had no sooner discharged their pieces, than one of the peasants, though the boat was at a considerable distance, threw his noose, and notwithstanding all in the boat threw themselves on their faces, he noosed the above-mentioned person, pulling him out of

the boat with the greatest rapidity; whilst the others, instead of endeavouring to save him, in their fright thought of nothing but how to get out of danger as soon as possible. It was the Englishman's good fortune not to be strangled or killed by the bruises he received, the slip-knot having passed from one shoulder under the opposite arm, so that he recovered in a few days.

As it is very seldom that they miss, and are obliged, on haltering a creature, to draw the knot, at the same time that they throw the noose, they clap spurs to their horse, and put him on his full speed; that the creature is so far from having time to disengage itself, that it is no sooner caught than disabled. This is also one of the weapons, if I may give it that name, used in their private quarrels, defending themselves with a lance of a middling length. And their address on these occasions is so very remarkable, that very often, after a long dispute, in which both parties are heartily tired, they part, with no other hurt than a few bruises. This is also the method they take to satisfy their revenge, endeavouring to halter the object of their hatred, either as he runs from them, or is not apprized of their intention. In this case the only resource in an open country, on seeing him with his noose in his hand, is, to throw oneself on the ground, keeping the legs and arms as close to the surface as possible, that the rope may have no room to get under any part. The person may also save himself by standing close to a tree, and, if in the street, by placing himself against the wall. A small distance, that is, under ten or fifteen paces, partly renders their dexterity ineffectual; but there is very great danger of being entangled when the distance is thirty or forty. The nooses, or halters, are thongs of a cow's hide, cut round the skin, and of a proper breadth. These thongs they twist, and work with fat, till they are of a proper degree of suppleness; but so strong, that though when twisted they are not larger than the little finger, yet they hold the wildest bull when its efforts to escape would break a rope of hemp of much larger dimensions.

The climate of this city is not essentially different from that of the greatest part of Europe. Winter is indeed something colder than in the southern provinces of Spain, but milder than those of the northern; and the summer heats proportionably. In winter the inhabitants seem to be little incommoded by the north winds, and in summer the heats are moderated by the cooling breezes from the south. The heat is however greater in the city than in the adjacent country, occasioned chiefly by the different disposition of the ground, being intersected by various rivers, some of which are very large, as the Arauco and the Biobio. The latter of which, at a league above its mouth, is very near four leagues in breadth. It may, however, in summer be forded, but not without danger; in the winter it is passed in balzas. At the southern banks of the river, the territories of the wild Indians begin, and near the same shore towards that part are the chain of frontier forts, of which a farther account will be given in the sequel. The country of this jurisdiction consists principally of extensive plains, the Cordillera being at a considerable distance to the eastward, and the whole space between it and the sea-coast, one entire and uniform plain, interrupted only by a few eminences, which are an ornament to the country, and render the perspective of it the more agreeable.

The great affinity between this climate and that of Spain is evident from its products, though there is a remarkable difference with regard to their goodness and plenty, in both which this country has greatly the advantage. The trees and plants of all kinds have their regular seasons, embellishing the fields with their verdure, entertaining the sight with their various flowers and blossoms, and gratifying the palate with their delicious fruits. It is needless to mention that the times of the season must be opposite,

consequently the winter in Spain is their summer, and the autumn of the former, the spring of the latter. In saying that this country produces the same corn and fruits as Spain, I do not mean those of the most southern parts; for neither sugar-canes, oranges, nor lemons thrive here. Nor is it well adapted to olive-yards, though some olives are produced here. But the fruits cultivated in the centre of Spain are the same with those produced here in a most astonishing plenty, wheat and other grain generally producing an hundred fold. I shall here relate an instance I myself saw and examined at Talcaguano, in a garden near the sea-side, at a place called the Morro, very little more than a quarter of a league from the harbour. Among several stalks of wheat that had grown there without culture, I saw one whose stem was not more than a foot from the ground, but from its knots there afterwards sprung so many stalks, as produced thirty-four ears\*, the largest of which were near three inches in length, and the least not less than two. The master of the house observing that I viewed this production of nature with astonishment, told me that it was nothing extraordinary, for though the grain in the ground commonly sown, did not often attain such a luxuriance, it was common for each stalk to produce five or six ears. This information raised my curiosity; and I met with so many instances afterwards, that my surprise at seeing the stalk just mentioned was greatly abated; as from the moisture, advantageous exposure, and richness of the soil, a much greater produce might naturally be expected than in the ground constantly sown.

The great plenty of wheat here is sufficiently indicated by its price; a measure weighing six arobas and six pounds, being usually sold for eight or ten rials. Yet for want of a market, though at so low a price, no more is sown than is necessary for home consumption; and thence a great part of the country lies fallow.

Here are vines of several kinds, and which vie with the wheat in exuberance. They are also, both with regard to the richness and flavour of their grapes, esteemed beyond any produced in Peru. Most of them are red. A sort of Muscadell is also made here, whose flavour far exceeds any of the kind made in Spain. The grapes grow mostly in espaliers, and not on detached vines. In this respect also, as in the wheat, large tracts of ground are totally neglected. For though its produce is so considerable, the buyers are so few, that the vineyards do not answer even the expence of cultivation.

The chief use made of these rich lands by the owners is, the fattening of oxen, goats and sheep. And this is the principal employment of greatest part of the inhabitants of the country of all ranks, and universally of the lower class. As soon as the horned cattle are fattened in these luxuriant pastures, and the proper season arrived, four or five hundred, and even more, according to the largeness of the farm, are slaughtered. They take out the fat, melt it into a kind of lard, there called Graffa; and buccaneer or dry the flesh in smoke; but the greatest profit arises from the hide, the tallow, and the graffa, a sufficient proof of their prodigious fatness when killed. But an idea of the fertility of this country may be best formed from the value of a live beast, which, when fit to be killed, may be purchased for four dollars; a price vastly beneath that in any other part of India; and may be sufficient to remove the unjust reproach of the poverty of this province. For were the industry of the people equal to the fertility of the soil, this kingdom would be the most opulent of any in America.

The manner of slaughtering the beasts renders it a favourable diversion to the persons employed in performing it, and it must be owned that their dexterity is really surprising. The cattle intended to be killed are drove into an inclosure. At the gate are the Guafos

\* This species of wheat is called *Triticum spica multiplici*, and is cultivated in Italy and Sicily.

on horseback with their spears two or three toises in length, and at one end a very sharp piece of steel in the form of a half moon, the points of which are about a foot distant from each other. Every thing being ready, the gate of the inclosure is opened, and a beast turned out, which naturally betakes itself to flight, but is immediately pursued by a guafo, who, without checking his horse, hamstringing it in one leg, and then immediately in the other. He then alights, and having dispatched his capture, skins it, takes out the tallow, the fat for the grassa, and cuts up the flesh for salting and drying. This done he wraps up the tallow in the hide, and loading it on his horse, carries it to the farm; returning again for the flesh. After this he sets out on another expedition. Sometimes they turn out at once as many beasts as there are guafo ready to kill them. And this is the daily exercise till all the cattle appointed for that year's slaughter are dispatched. An European is surprised not only at their dexterity in hamstringing the beast, when both are on full speed, but also to see one man alone go through the whole work in such a regular method and great dispatch. If the beast be swifter than his horse, the guafo has recourse to his noose, and halts him by throwing it either about his neck, or round one or two of his legs, according as opportunity offers, and by that means secures him. Then if a tree be near at hand, he gives the end of the thong two or three turns round the trunk, and the whole difficulty of killing the beast is over.

The tallow is wrapt up in the hides, and in this manner carried to the city for sale; the grassa is melted into bags of sheep-skins; the flesh, after being cut into thin slices, is salted, and this is what they call Tassagear; afterwards it is buccaneered or dried in the smoke\*, and sold. The hides they tan, and make from them a most excellent leather, especially for the soles of shoes†. Goats also, as we have already observed, are fattened and turn to good account. Their tallow nearly resembles that of the ox, and the Cordovan leather made of their skins surpasses every thing of that kind made in any part of the whole kingdom of Peru.

All other provisions and grain are in the same plenty, turkeys, geese, and all kinds of poultry are sold at a remarkable low price, great numbers of them being bred all over the country, with little care and no expence. Wild fowls also are very common, among which are canelones, and others described among the birds found in the deserts of Quito, though these are not so large, and more like the bandarrias as they are there called. Here are also wood-pigeons, turtle-doves, partridges, snipes, woodcocks, and royal cirapicos, &c. And with regard to these, the air may be said to vie with the fertility of the earth.

Among the birds I must not omit one of a very singular kind, and found all over the country. The natives call these birds despertadores, awakeners, from their giving notice to others of the approach of any danger. On hearing the noise of the approach of any creature, whether man or beast, or seeing them within a small distance, they rise from the ground, and make a loud chattering not unlike that of a magpye; continuing the noise, and flying about in the air over the object which caused the alarm. This is understood by the birds thereabouts, who immediately rise, and by that means escape the danger.

This bird is about the size of a middling fowl, its plumage black and white, has a thick neck, the head something large, erect, and beautifully adorned with a tuft of feathers; its eyes are large, sharp and lively; its bill well proportioned, strong, and a little curved. On the fore part of their wings are two spurs, about an inch in length,

\* They dry it in the sun, by which it attains a rusty colour, and appears as though it had been dried in smoke. A.

† They tan thin leather with the bark of the mangrove tree. A.

of a reddish tint towards the root, and their points resembling those of a cock, being very hard and sharp. These are the weapons they make use of against the other birds, particularly those of prey, as hawks, and others of that kind, which probably abound the more in this country, from the great variety of prey it affords them.

Among the singing birds is the goldfinch, in every particular resembling those of Spain, except a small variation in its plumage. There are besides others proper to this country, and met with in all the cold climates, particularly the piches, which are something larger than sparrows. They are of a brown colour, spotted with black, except their breast, which is of a most beautiful red, and some feathers of the same colour in their wings, intermixed with others of a bright yellow. Amidst all the fertility of this country, the only insects are the niguas or piques; and though some snakes are found in the fields and woods, their bite is not dangerous. Neither are the country peasants under any apprehension from ravenous beasts; so that nature may be said to pour her treasures on this country, without blending them with the usual inconveniences.

The fruits which mostly abound in Chili, are of the same kind as those known in Europe; its cherries in particular are large, and of a fine taste. The strawberries are of two kinds, one called frutillas, and are larger than those of Quito, wanting little of being equal to a hen's egg in magnitude. The other, which in size, colour and taste, perfectly resemble those of Spain, grow wild, on the side of the eminences with which the plains are interspersed. And here also grow all kind of flowers, without any other culture than that of benign nature.

Among the remarkable herbs, of which many are medicinal, and others applied to divers uses, is the panque, of great service in tanning leather. It abounds every where, and grows to about four or five feet from the ground. The principal stem, which is of a soft substance, is betwixt four and five inches in diameter, and about two feet and a half in height, separating there into several branches, bearing round, ferrated, rough, and thick leaves, and so large that their diameter, when full grown, is seldom less than a foot and a half, and sometimes two feet. Before the plant is fit to be cut, when the leaves begin to turn red, the peasants make an incision into the bark, and suck the juice, which is very cooling and astringent; but as soon as ever the leaf is observed to turn white, an indication of decay, they cut the plant down at the root, take off the branches, and divide the stalk into short pieces, which being dried in the sun make an excellent tan.

Besides this rich variety of productions on the surface of the earth, the country also abounds with valuable mines and quarries; particularly of Lapis lazuli and loadstone, copper equal to the best of Europe; besides several of gold; but no advantage is derived from any; the inhabitants, contented with the plentiful enjoyment of all the necessaries of life, extend their wishes no farther, leaving to the curiosity and avarice of others, the laborious search after what the earth contains in its bowels.

This kingdom of Chili seems also to have been the first country of those famous horses and mules mentioned in the first part. Indeed all these creatures found in America owe their origin to some imported from Spain. At present however, those of Chili surpass not only those of the other parts of America, but even those of Spain, from whence they are derived. The horses first brought over might possibly have been of the running kind, Spain still abounding in that sort. But it must be owned, that greater care has been taken here of preventing the breed from being mixed with others of a less generous species; and by this means they greatly exceed those of Spain; for without any other incentive than their own inclination, before they will suffer any other to get before them, they will exert their utmost strength; and at the same time their

motion is so easy, that the rider is not the least fatigued. In beauty and gracefulness they are not inferior to the famous Andalusian horses, and at the same time full of spirit. Accordingly they are every where so highly valued, that a more acceptable present cannot be made to a person of the greatest distinction, than one of these beasts. Many purchase them for parade, and besides their being common all over the kingdom, they have been sent even to Quito. The great demand for them, and consequently their high price, has induced the inhabitants of several countries to attempt the breeding of them; but none are equal to those of Chili.

The commerce at Conception might be considerably increased, were the country, which is far from being the case, inhabited in any proportion to its fertility and extent; but for want of a sufficient number of hands, their commerce is at a very low ebb, consisting almost entirely in provisions, wine, &c. and this is so small, that it is chiefly carried on by only a single ship coming once a-year to Callao to load with them, together with a few others trading to Chiloe and Baldivia, and in their return touch here. Their exports are tallow, grassa, cordovan, bend leather, excellent butter, wines, and dried fruits. The goods brought hither in exchange are the several sorts of woollen stuffs from Quito, and others from Europe, iron, and mercury. Very few European goods are however imported; for the people here not being remarkable for their riches, use only home-made stuffs and bays, which, though extremely good, are in no great quantity. The commerce carried on between the inhabitants of Chili, and the Arauco Indians, shall be mentioned in its proper place.

CHAP. VI. — *Description of Conception Bay, its Roads or Harbours, Fish, &c. and the singular Mines of Shells in its Neighbourhood.*

THE bay of Conception, besides its excellent bottom, is of such an extent, as not to be equalled by any on the whole coast. For from Tierra-Firma, north and south, its length is nearly three leagues and a half, and its breadth from east to west, almost three leagues, being the distance betwixt the harbour of Talcaguano, and the Cirillo Verde, or little green mountain, situated near the city; from whence its breadth is contracted by the island of Quiriquina, which, lying in the mouth of it, forms two entrances, of which that on the east side is the safest, being two miles in breadth, and accordingly frequented by most ships. The west entrance is between the island and Talcaguano point, and is near half a league in breadth. In the principal entrance of this bay is thirty fathom water, which depth afterwards decreases to eleven and ten, till within about a mile of the shore, opposite to the entrance. The western, though the many rocks and breakers in it make it appear very dangerous, has a channel with water sufficient for the largest ship, the depth being at first thirty fathom, and never less than eleven; it is situated in the middle of the entrance, that is, at an equal distance between the rocks which project about a quarter of a league from Talcaguano point and Quiriquina.

Within the bay are three roads or harbours, where ships anchor; for though the bottom be every where clear, it is only in one of these three places ships can ride in safety, being no where else sheltered from the wind. The first, called Puerto Tome, lies east and west with the north point of Quiriquina, contiguous to the coast of Tierra Firma. The anchoring place is about half a league distant from the land, in about twelve fathom water. But this road is only used when ships come in during the night,

it being difficult to reach either of the other two before day light, as several tacks must be made for that purpose.

In this bay the principal port is that of Talcaguano. It is properly an elbow, and bears south-south-west from the south point of Quiriquina. This is by far the most frequented, ships in general anchoring here, having not only better ground than any other part of the bay, but are in some measure sheltered from the north winds. Whereas at Cirillo Verde, they lie exposed, not only to these, but also to the south winds, the land which should intercept them being low. Besides, the bottom is of a loose mud, so that the anchors in a hard gale of wind generally come home; and consequently the ships in great danger of being stranded on the coast. From these inconveniences it may be concluded, that the only ships which anchor here, are such as happen to be in those parts in the midst of summer, and are in haste to take in their loading, for which this road is most convenient, as being nearest the city.

Two rivers empty themselves into this bay, one of which, passing through the city of Concepcion, has thence the same name; the other is called St. Pedro. The first is the watering-place for ships anchoring at Cirillo Verde; whereas those at Talcaguano supply themselves with that necessary fluid from some streams which flow from the adjacent eminences; they easily take on board a sufficient quantity of wood, of which there is here plenty; as of all other necessaries.

Ships, before they enter the bay of Concepcion, endeavour to make the island of Santa Maria, and then coast along it, keeping at the same time a good look-out for a reef of rocks which stretches out almost three leagues from the north-west point; thence they continue their course, keeping at a little distance from the main, there being no rocks but what are above water. After weathering the real of rocks on the island of Santa Maria, they steer directly for Talcaguano point, at the distance of about half a league; from which seaward, is a rock called Quiebraollas, which must be the more carefully avoided as it is surrounded with shoals. There is, however, no danger, if the ship be not nearer than half a mile; indeed there is a sufficient depth of water within a cable's length. After their being a-breast of this rock, they steer for the north point of Quiriquina, off which lie two rocks, but the farthest from the shore is only a quarter of a league, and may be safely approached within a stone's cast. Both these rocks swarm with sea-wolves, and as there is a sufficient depth of water all round them, there is no other danger in standing near them, than what may be seen. There is indeed a necessity for standing near them, to avoid falling to leeward of the bay. After passing them, the course is continued as near as possible to the island of Quiriquina, taking care to avoid some other rocks lying along the shore.

As ships are generally obliged to make several tacks in order to get into Concepcion bay, care must be taken not to approach too near to the island of Quiriquina, either on the east or south sides; for though the coast is bold on the north and north-west sides, there is a shoal on the south extending to a considerable distance from the shore. At a third part of the distance between the road at Talcaguano, and the point of the same name, is another shoal, running about half a league to the eastward, in the middle of it is a ledge of rocks, whose tops are dry at low water. To avoid this shoal, though the thick water sufficiently indicates it, the best way is, at entering the mouth of the bay with a land wind, to steer directly for the middle of a spot of red earth on a mountain of a middling height, situated at the bottom of the bay, continuing this course till the ship is past the shoal; and then steer directly for the houses at Talcaguano, till within about half a mile from the shore, which is the usual anchoring place in five or

fix fathom water; Cape Harradura being covered by the island of Quiriquina. The same care is also necessary to avoid another reef of rocks, lying between the Morro and the coast of Talcaguano; nor must the Morro side be approached too near, there being a sand stretching all along from that reef of rocks to Cirillo Verde. The ships riding at Talcaguano in the manner thus prescribed, are sheltered from the north wind; but not entirely so from the sea, which in those winds runs very high, and pours in through both entrances. The goodness of the bottom, however, secures the ship. During the force of these winds there is no possibility of landing on account of the great sea; but in fair weather, every place is convenient for going on shore.

The country round the bay, particularly that between Talcaguano and Concepcion, within four or five leagues from the shore, is noted for a very singular curiosity, namely, that at the depth of half or three quarters of a yard beneath the surface of the ground, is a stratum of shells of different kinds, two or three toises in thickness, and in some places even more, without any intermixture of earth, one large shell being joined together by smaller, and which also fill the cavities of the larger. From these shells all the lime used in building is made; and large pits are dug in the earth for taking out those shells, and calcining them. Were these strata of shells found only in low and level places, this phænomenon would be more easily accounted for by a supposition no ways improbable, namely, that these parts were formerly covered by the sea, agreeably to an observation we made in our description of Lima. But what renders it surprising is, that the like quarries of the same kind of shells are found on the tops of mountains in this country, fifty toises above the level of the sea. I did not indeed personally examine the quarries on the highest of those mountains, but was assured of their existence by persons who had lime-kilns there; but I saw them myself on the summits of others at the height of twenty toises above the surface of the sea; and was the more pleased with the sight, as it appeared to me a convincing proof of the universality of the deluge. I am not ignorant that some have attributed this to other causes; but an unanswerable confutation of their subterfuge is, that the various sorts of shells which compose these strata both in the plains and mountains, are the very same with those found in the bay and neighbouring places. Among these shells are three species very remarkable; the first is called Choros, already mentioned in our description of Lima; the second is called Pies de Burros, asses feet; and the third Bulgados: and these to me seem to preclude all manner of doubt that they were originally produced in that sea, from whence they were carried by the waters, and deposited in the places where they are now found.

I have examined these parts with the closest attention, and found no manner of vestige of subterraneous fires. No calcinations are to be met with on the surface of the earth, nor among the shells; which, as I have already observed, are not intermixed with earth; nor are there stones, or any other heterogeneous substances found among them. Some of these shells are entire, others broken; as must naturally happen in such a close compression of them, during so long an interval of time. This circumstance, however trifling it may appear to some, may deserve the consideration of those who have advanced the notion, that shells may be formed in the earth by subterraneous fires, co-operating with the nature of the soil.

The Pie de Burro has its name from the fish inclosed in it, resembling, when taken out, the foot of an ass. This fish is of a dark brown colour, firm and filaceous; it is an univalve, its mouth almost circular, and its diameter about three inches. The bottom of the shell is concave within, and convex without. The colour within is perfectly white, the surface very smooth, the outside scabrous and full of tubercles. Its

thickness

thickness in every part is about four or five lines; and being large, compact, and heavy, is preferred to all others for making lime.

The bulgados, in the Canaries called bulgaos, are snails, not at all differing in their form from the common; but larger than those of the same name found in gardens, being from two inches to two inches and a half in diameter. The shell is also very thick, rough on the outside, and of a dark brown colour; and next to the preceding makes the best lime.

All these species of shell-fish are found at the bottom of the sea in four, six, ten, and twelve fathom water. They are caught by drags; and what is very remarkable is, that no shells, either the same, or that have any resemblance to them, are seen either on the shores continually washed by the sea, or on those tracks which have been overflowed by an extraordinary tide. They adhere to a sea-plant, called Cochayuyo lake-herb, the Indians making no nominal distinctions between the inland lakes and the sea, calling both cochas. This plant resembles the bejuco; its diameter is about half an inch, and from its root to its extremity of an equal thickness. In length is from twenty to thirty toises, producing at every eighteen inches, or something more, a leaf about a yard and a half or two yards in length; but the breadth, which is in every part the same, does not exceed two or three inches. It is remarkably smooth, which, together with a viscid liquor, with which it is covered, gives it a very fine gloss. The same may be said of the stem, which is extremely flexible, and strong. Its colour is of a pale green, but that of the leaves more vivid. This plant divides itself into several branches, equal in dimensions to the main stem. These branches successively produce others of the same proportion; so that the produce of one single root covers a prodigious space. At the joints, where the branches spring, are found this kind of shell-fish, where they both receive their nourishment, and propagate their species. The extremities of these cochayuyos float on the surface, and in some lakes, where the water has remained a long time undisturbed, form a kind of carpet. At the junction of the stalk of every leaf with the stem, is a berry resembling a caper, but something larger, smooth and glossy on the surface, and exactly of the same colour with the stem.

The seas on these coasts abound in excellent fish, though not in so great a degree as those near Juan Fernandes. Here are seen in particular a great number of whales, which come even into the bay; also tunny-fish and sea-wolves. Among the amphibious creatures, here is one known all along these coasts, and even at Callao. It is called Pajaro Nino, the bird-child. It in some parts resembles a goose, except that its neck and bill are not arched, and is something larger. It has a thick neck, a large head, and a strong short bill. Its legs very small, and in walking the body is in an erect position. Its wings are small, cartilaginous, and nearly resemble the fins of the seal. Its tail is so small as hardly to be distinguished; its wings and whole body are covered with a short brown hair, like that of the sea-wolves, and generally full of white spots, though some are of other colours; so that, upon the whole, the bird makes no disagreeable appearance. It lives promiscuously either in the water or on land; on the latter it is easily taken, being very slow in its motions; but when attacked, bites severely, though it is observed never to be the first aggressor.

## CHAP. VII. — *Description of the City of Santiago, the Capital of the Kingdom of Chili.*

AFTER giving an account of all the cities and places of note through which we passed, I must not omit the capital of the kingdom of Chili. We had not indeed occa-  
sion

sion to visit it personally ; but by the informations we received from persons best qualified to answer our enquiries, in the ports of its jurisdiction, to which our affairs called us more than once, we are enabled to gratify the curiosity of a rational reader.

The city of Santiago, originally called Santiago de la Nuestra Estremadura, was founded by Captain Pedro de Valdivia, who began the foundation on the 24th of February 1541, in the valley of Mapocho, near that of Chili, which gives its name to the whole kingdom. It has not been subject to the revolutions of other places, but still stands on its original spot, which is nearly in  $33^{\circ} 40'$  south latitude, and about twenty leagues from the harbour of Valparaiso, the nearest port to it in the South Seas. Its situation is one of the most convenient and delightful that can be imagined, standing in a delightful plain of twenty-four leagues in extent, watered by a river flowing in meanders through the middle of it, and called by the same name of Mapocho. This river runs so near the city, that, by means of conduits, the water is conveyed from it through the streets, and also supplies the gardens, which few houses are here without, and hence the delightful situation of the place, and the pleasure of the inhabitants are greatly heightened.

The city is a thousand toises in length from east to west, and six hundred in breadth from north to south. On the side opposite the river, which washes the north part of it, is a large suburb, called Chimba ; and on the east side, almost contiguous to the houses, is a mountain of a middling height, called Santa Lucia. The streets are all of a handsome breadth, paved and straight ; some run exactly in an east and west direction, and are crossed by others, lying exactly north and south. Near the middle of the city is the grand piazza, which, like that of Lima, is square, with a very beautiful fountain in the center. On the north side are the palace of the royal audience, where the presidents have their apartments, the town-house, and the public prison. The west side is taken up by the cathedral and the bishop's palace. The south side consists of shops, each decorated with an arch ; and the east is a row of private houses. The other parts of the city are divided into insulated squares of houses, regular, and of the same dimensions with those of Lima.

The houses here are built of adoves, or unburnt bricks, and very low ; this necessary caution against the terrible devastation of earthquakes being equally necessary here as in all other towns of Peru, calamities with which this city has been often visited ; but the most remarkable are the following :

1. In the year 1750 an earthquake happened, which overflowed several mountains in this kingdom ; many villages were entirely destroyed, and great part of the inhabitants buried in their ruins.

2. In the year 1647, on the 13th of May, many of the houses and churches of this city were ruined by another shock.

3. In 1657, on the 15th of March, the earth was observed to have a tremulous motion for the space of a quarter of an hour, and few of the buildings in the city were left standing.

4. In 1722, on the 24th of May, great part of the houses were damaged by another earthquake.

5. In the year 1730, on the 8th of July, happened that tremendous earthquake already mentioned in our account of Concepcion. This shock not only ruined the greatest part of the city, but concussions were often felt for many months afterwards ; and this catastrophe was succeeded by an epidemical distemper, which swept away even greater numbers than had before perished by the earthquake.

Notwithstanding the houses are low, they make a handsome appearance, and are well contrived both for pleasure and convenience.

Besides the cathedral and the parish-church of the Sagrario, here are two others, namely, that of St. Anne, and St. Isidoro. There are also three convents of St. Francisco, San Diego, a college for students, and, without the city, a convent of Recollects; two of Augustines, one of Dominicans, one of the fathers of Mercy, one of St. Juan de Dios, and five colleges of Jesuits, namely, St. Michael, the Noviciate, St. Paul, St. Xavier; a college for students, who wear a brown cloak, and a red scarf; and the college, called La Olleria, for the exercises of St. Ignatius. Here are also four nunneries, two of St. Clare, two of Augustines, and one of Carmelites; and a religious sisterhood, under the rules of St. Augustine: all which have a large number of recluses, as is common in all the cities of Peru. The churches of the convents, besides being very spacious, are built either of brick or stone, and those of the Jesuits are distinguished by the beauty of their architecture. The parish-churches are in every respect greatly inferior to them.

The inhabitants of Santiago are computed at about four thousand families, and of these nearly one half are Spaniards of all degrees; and among them some very eminent men, both of rank and opulence. The other moiety consists of Casts and Indians, but chiefly of the latter.

The customs here differ very little from those already mentioned in our account of large cities. They are not so negligent in the care of their apparel as at Concepcion; and instead of the ostentation of Lima, they follow the modest decency of Quito. The men, except on some particular ceremonies, generally wear ponchos, and all the families who can any way afford it, keep a calash for driving about the city. The men are robust, of a proper stature, well shaped, and of a good air. The women have all the charms of those of Peru, and are rather more remarkable for the delicacy of their features, and the fineness of their complexions; but they disfigure their natural beauty by a misplaced art, painting themselves in such a preposterous manner, as not only to spoil the natural delicacy of their skin, but even their teeth; so that it is very rare to see a woman here of any age with a good set.

In this city is a royal audience, removed hither from Concepcion. It consists of a president, four auditors, and a fiscal, together with another officer dignified with the endearing title of patron of the Indians. The determinations of this court are without appeal, except to the supreme council of the Indies, and this is only in matters of notorious injustice, or denial of redress.

The president, though in some particulars subordinate to the viceroy of Lima, is also governor and captain-general of the whole kingdom of Chili; and, as such, he is to reside one half of the year at Concepcion, and the other at Santiago. During his absence from the last city, the corregidor acts as his representative; and his jurisdiction, on this occasion, extends to all the other towns, except the military governments.

The magistracy, at the head of which is the corregidor, consists of regidores, and two ordinary alcaldes. In these are lodged the police, and civil government of the city; and during the time the president resides here, the jurisdiction of the corregidor is limited to the liberties of Santiago.

The office for the royal revenue is directed by an accountant and treasurer; where are paid the tributes of the Indians, and other parts of the revenue; the salaries of officers within its department, and other assignments.

The chapter of the cathedral consists of the bishop, dean, archdeacon, chanter, four canons, and other subordinate ecclesiastics.

Here is also a tribunal of Croisade, the members of which are a sub-delegate commissary, an accountant, and treasurer. Likewise a commission of inquisition, all the officers of which are appointed by the tribunal of inquisition at Lima.

The temperature of the air at Santiago is nearly the same with that of Concepcion. The luxuriance of soil, and exuberance of all kinds of provisions, the commerce, and other necessary particulars, I shall mention in the following account of the kingdom of Chili.

CHAP. VIII. — *Account of that Part of Chili within the jurisdiction of the Audience of Santiago.*

THE kingdom of Chili extends from the frontiers of Peru to the streights of Magellan, the distance being five hundred and thirty leagues. These two kingdoms, as I have mentioned in another place, are separated by the desert of Atacamo, which extends eighty leagues between the province of the same name, being the last of Peru, and the valley of Copoyapu, now corruptly called Copiapo, the first in Chili, and in every particular resembles the desert of Seftura. Eastward, some parts of this kingdom terminates on the frontiers of Paraguay, though some uninhabited deserts intervene; and others border on the government of Buenos Ayres; though between these are the Pampas, or extensive and level plains. Its western boundary is the south-sea, extending from twenty-seven degrees nearly, the latitude of Copiapo, to  $53^{\circ} 30'$ . But to confine ourselves to the true extent of this kingdom, as inhabited by the Spaniards, it begins at Copiapo, and terminates at the large island of Chiloe, the southern extremity of which is in  $34^{\circ}$  of south latitude; and its extent from west to east is the distance between the Cordillera, which is here of a stupendous height, and the coast of the south-sea; that is, about thirty leagues.

Part of the country which at present composes the kingdom of Chili, was subjected to the empire of the Yncas by Yupanqui, the tenth emperor; who, incited by the charming account given of these provinces, undertook the conquest of them; and prosecuted the enterprize with such success, that he subdued the several nations inhabiting the valleys of Copoyapu or Copiapo, Coquimpu or Coquimbo, and Chili. But in his intended career southward, the victorious Ynca met with an unsurmountable difficulty from the Purumauco Indians, and other nations, whom the rapidity of his conquests had induced to oppose him by a general confederacy. Thus he found himself under a necessity of desisting, after having carried his arms as far as the river Mauli, which is in the latitude of  $34^{\circ} 30'$ .

After the Spaniards had undertaken a descent in Peru, and made themselves masters of its several provinces, the Marshal Don Diego de Almagro was commissioned for the conquest of Chili. Accordingly he marched from Cusco at the beginning of the year 1535, and after losing the greatest part of his Indians, and a considerable number of Spaniards, who perished with cold in passing over the Cordillera Nevada, he arrived at Copiapo, where the Indians, without trying the chance of war, submitted. Animated with such unexpected pusillanimity, he proceeded to the conquest of other nations; even such as never had acknowledged the Yncas. And though he here met with a more warlike people, who were determined to sell their liberty dear, he carried on the war prosperously. But His Majesty, in consideration of his great services, performed with so much hazard, having conferred on him the government of a territory a hundred leagues in length, south of that which belonged to the Marquis Don

Don Francisco Pizarro, a difference arose between these two great men, with regard to the boundaries of their respective governments. Almagro, impatient to take possession, and pretending that the city of Cusco ought to be included in his government, the conquest was suspended, and he himself hastened to that city, where, instead of being invested with the chief command, he fell a sacrifice to the jealousy of Hernando Pizarro, who endeavoured to conceal his irregular proceedings under the veil of justice.

In the year 1541, the conquest of Chili was again set on foot, and the Marquis Pizarro conferred the command on Pedro de Valdivia, together with the title of general. Accordingly he marched into the country, and founded most of the principal towns and villages in it. So that in the year 1548, he was promoted to the government of it, by the president of Peru. In the prosecution of the conquest of these provinces, he had many sharp skirmishes with the natives, till at last, in the year 1553, bravely opposing a general revolt with a very inferior force, he fell, fighting with the greatest intrepidity, at the head of his troops, the greatest part of whom, enraged at losing so brave a man, chose to perish with him, rather than save themselves by flight. His name, besides the figure it makes in history, is still preserved in this country, in the town of Valdivia, which he founded.

The martial genius of the Indians of this kingdom considerably retarded the reduction of it; and has always been the chief cause why the Spanish settlements here are so little proportional to the extent, fertility, and riches of the country. Accordingly the captain-generalship of this vast kingdom has only four particular governments, and eleven jurisdictions; which are the following:

#### Particular governments in the kingdom of Chili:

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|---|----------------|
| I. The major-generalship of the kingdom of Chili. | III. Valdivia. |
| II. Valparaiso.                                   | IV. Chiloe.    |

#### Jurisdictions in the kingdom of Chili:

- |                 |                         |
|-----------------|-------------------------|
| I. Santiago.    | VII. Quillota.          |
| II. Rancagua.   | VIII. Coquimbo.         |
| III. Colchagua. | IX. Copiapo and Guasco. |
| IV. Chillan.    | X. Mendoza.             |
| V. Aconcagua.   | XI. La Concepcion.      |
| VI. Melipilla.  |                         |

I. To the major-generalship of the kingdom of Chili, belongs the military government of the frontier towns and fortresses. These are Arauco, the stated residence of the general Santajuana, Puren, Los Angeles, Tucapel, and Yumbel. It will be here necessary to observe, that not above five leagues south of Concepcion bay, the sea receives a river called Biobio, both the south banks and head of which are inhabited by wild Indians: and to prevent their incursions, strong forts have been erected along the banks, and are always well garrisoned and furnished with all kinds of military stores. Among these on the south banks of the river is the fort of Arauco, and the others at a proper distance eastward to the mountain of Tucapel. Thus all attempts from these Indians is precluded, and the Spanish settlements protected from their depredations. The general is obliged to visit these forts from time to time, carefully inspecting

ing into their condition, and, in case of necessity, to hasten to their relief. During his absence, the commanding officer of each is the captain of the garrison, which usually consisting both of horse and foot with their officers, the person on whom the command devolves is previously nominated. This important post is in the disposal of the president, as supposed to be best acquainted with the merits of the several competitors when a vacancy happens; and that the safety of his government will induce him to prefer the most deserving. Accordingly, whoever intends to offer himself a candidate for this post, should solicit to be employed in the frontier service, procure a competent knowledge of the stratagems of the Indians, and be very attentive to distinguish himself on any alarm or encounter. It is indeed expressed in the royal commission, that the corregidor of Concepcion shall be the military commander-in-chief; and, consequently, it is to him that the appointment of the general properly belongs; but this, from very powerful reasons, is dispensed with, the proper discharge of these two posts being utterly incompatible; and the civil and military requisite here very rarely meeting in the same person. But when this obstacle does not exist, and the corregidor is one of these extraordinary persons, the president, agreeably to the royal expression, confers the post of *Maestre de campo* on the corregidor of La Concepcion.

II. Valparaiso is the second military government. But the particular account of it, I shall defer for a more proper place.

III. Valdivia has a military governor nominated by the King. Here is also a good body of troops, both for garrisoning the place, and the forts built to defend the entrance of the river and harbours in it. Close to the river stands the town, the inhabitants of which are chiefly whites or *Mestizos*; but a village forming a kind of suburb is inhabited by friendly Indians. This government has undergone some vicissitudes in point of subordination, being sometimes independent of the presidents of Chili, and immediately subject to the viceroy of Lima; and at other times a part of the former. At last, on weighing the difficulties for providing for any sudden exigence, or having a watchful eye over its necessary concerns at so great a distance as Lima, it was annexed to the jurisdiction of the president of Chili, as being nearer at hand to see that the forces are always on a good footing, and consequently in a proper posture of defence.

IV. Chiloe has a military governor, who resides at Chacao, the principal harbour of the island, being well fortified and capable of making a good defence. Besides Chacas, which has the title of a city, is another place much larger, called Calbuco, where resides a corregidor, who is nominated by the president of Chili. It has also regidores and *alcaldes* chosen annually. Besides the parish-church here, is a convent of Franciscans, another of the fathers of Mercy, and a college of Jesuits. The island is every-where well peopled with Spaniards, *Mestizos*, and Christian Indians.

The kingdom of Chili has continually a body of regular troops, consisting of five hundred men, for garrisoning Valparaiso, a fort at Concepcion, and those on the frontiers. One half of this body is infantry and the other cavalry. Under the major-general who commands in chief, is a serjeant-major, whose duty it is to render them expert in all the various parts of military exercise; and that he may more conveniently render them ready at their several evolutions, he resides at the fort of Jumbal, which lies in the center of the others. To these also belong a commissary-general of the horse, whose post is at Arauco, and in the absence of the general has the command. These troops have also a muster-master-general, who resides at Concepcion. \* The standing forces of Chili, till the beginning of this century, consisted of two thousand men: but the great charge of supporting such a body of troops occasioned them to be reduced to the present number.

The produce of the revenue-officers at Santiago and Concepcion, not being sufficient to defray the expences of even this small body, a remittance of 100,000 dollars is every year sent from Lima, half in specie, and half in clothes, and other goods. But six or eight thousand is annually deducted out of this sum for repairing the forts of the frontiers, and making presents to the deputies of the Indians who attend at conferences, or to satisfy those who complain to the president of injuries received.

Valdivia also receives from the treasury of Lima, an annual supply of 70,000 dollars, 30,000 in specie, the value of thirty thousand in clothes for the soldiers, and 10,000 in specie, which is paid to the King's officers at Santiago, in order to purchase flour, charqui, grappa, and other necessaries for the garrison at Valdivia. These remittances are conveyed in ships which sail from Valparaíso.

I. The jurisdiction of Santiago we have already observed to be limited to its boundaries.

II. Rancagua is a jurisdiction in the country, and owes its name from the inhabitants living in single houses, without the appearance of a village, every family in their lonely cottage, four, six, or more leagues from each other. It is not, however, without a kind of capital, consisting of about fifty houses, and between fifty and sixty families, most of them Mestizos, though there cast is not at all perceivable by their complexion. The whole jurisdiction may contain about a thousand families, Spaniards, Mestizos, and Indians.

III. Colchagua resembles in every circumstance the former, except its being better peopled; its inhabitants, according to the best computations, amounting to fifteen hundred families.

IV. Chilan is a small place, but has the title of city, the number of families, by an accurate calculation, not exceeding two or three hundred, and having few Spaniards among them.

V. Aconcagua is a very small place at the foot of the mountains, but the country is interspersed with a great number of single houses. The valley of the same name is so delightful, that a town called Felipe le Real, was built in it in 1741.

VI. Melipilla made no better figure than the foregoing jurisdictions, till the year 1742, when a town was erected in it by the name of St. Joseph de Longronno.

VII. Quillota. The town of this name does not contain above a hundred families; but those scattered over the country exceed a thousand.

VIII. Coquimbo, or La Serena, according to Father Feuillée, stands in  $24^{\circ} 54' 10''$  south latitude. This was the second town built in the kingdom of Chili, in 1544, by Pedro de Valdivia, with a view of securing the intercourse between Peru and Chili, for the more convenient supply of what succours might be wanted; and at the same time, for securing the fidelity of the Indians who lived in that valley. This place is situated in the valley of Coquimbo, from whence it received its original name; but Valdivia gave it that of Le Serena, from an affection to the province of that name in Spain, and of which he was a native. It stands about a quarter of a league from the coast of the South Sea in a most delightful situation, having an extensive prospect of the sea, the river, and the country, which presents the sight with a charming variety of fields of different kinds of grain, and woods of a lively verdure.

This town is of itself large, but not proportionally peopled; the number of families not amounting to above four or five hundred, consisting of Spaniards, Mestizos, and a few Indians. The streets are straight and of a convenient breadth, some of which lying north and south, and others intersecting from east to west, the town consists of squares of buildings, like Santiago, and other places of note in this part of America. The houses are all of mud walls, and covered with leaves; but none are without a large garden, well planted with fruit-trees and esculent vegetables, both those of America

and

and Spain; for the climate is happily adapted to a variety of both kinds, the heats not being excessive, nor the colds severe; so that both in the fertility of the earth, and the cheerful appearance of the country, the whole year wears an aspect of one perpetual spring. The streets, though regular and convenient as above-mentioned, are not entirely formed by the houses, parts of the intervals between the several squares being filled up with gardens; and most of them have so charming an appearance, as to atone for the mean aspect of the houses.

Besides parish-churches, here is a Franciscan, a Dominican, and an Augustine convent; one belonging to the fathers of Mercy, another to St. Juan de Dios; and a college of Jesuits. The churches of these religious fraternities are large and decent. The parish-church occupies part of one side of the great square; and opposite is the town-house, where the alcaldes and regidores meet, who with the corregidor form the corporation.

On the north side of Coquimbo runs the river, after flowing in various meanders through the whole valley of the same name; and by canals cut from it, furnishes the town with water, one great use of which is to preserve the beauty of their gardens.

IX. Copiapo is about twelve leagues from the sea-coast, very irregularly built, but contains between three and four hundred families. The sea-port nearest to it is that known by the same name. There is indeed another port in this jurisdiction; but it lies thirty leagues farther to the south, and consists only of a few huts.

X. Mendoza. The town of this name is situated on the eastern side of the Cordillera, at the distance of about fifty leagues from Santiago. It stands on a plain, and is decorated with gardens in the same manner as Coquimbo, and the place being well supplied with water by means of canals, no care is wanting to keep them in their greatest beauty. The town consists of about an hundred families, half Spaniards or whites, and the other half casts. It has besides a decent parish-church, a Franciscan, Dominican, and Augustine convent, together with a college of Jesuits. This jurisdiction has also two other towns, that of St. Juan de la Frontera, likewise to the eastward of the Cordillera, and about thirty leagues north of Mendoza, and St. Luis de Loyala, about fifty leagues eastward of Mendoza. The latter however is mean and small, not containing above twenty-five houses, and fifty or sixty families, Spanish and casts; though many more are scattered up and down the neighbouring country. In such a small place it is something remarkable to see a parish-church, a Dominican convent, and a college of Jesuits. Here the presidents of Chili are received as governors of it, in their way to Chili from Buenos Ayres, this being the first place in their government on that side. The town of St. Juan de la Frontera is, in every respect, equal to Mendoza itself.

XI. The jurisdiction of Concepcion is the last; but having already given an account of it, I shall proceed to consider the commerce carried on by the kingdom of Chili with Peru, Buenos Ayres, Paraguay, and its own towns; and subjoin an account of that carried on with the wild Indians bordering on it, with the manner of maintaining a harmony with these savage people. In the mean time I shall conclude this chapter with observing, that the corregidores of the whole jurisdiction are nominated by the King, except those of Rancagua, Melipilla, and Quillota, who are appointed by the president of Chili. This is indeed the case of all the others, when a corregidor happens to die, before a person is nominated to succeed him; but the office of these corregidores being only for five years, the prolongation must be by His Majesty's express order. The inhabitants are formed into companies of militia, and every one knows the place of arms to which he is to repair on any alarm. Thus to Valparaiso belongs the com-

panies of militia of Santiago, Quillota, Melipilla, Aconcagua, and Rancagua; and these in all amount to between two or three thousand men, and are formed into troops and companies. Rancagua, when Santiago and Colchagua are threatened, is also to send succours thither; and the same duty lies on Chillan with regard to Concepcion. In these cases notice is conveyed with such dispatch, that they are speedily at their rendezvous, all they have to do, being to mount their horses and repair to their station with the usual pace used in that country, which is always a gallop; and thus the militia of this country may be said to ride post to the parts where danger calls them.

**CHAP. IX. — Commerce of Chili. — Methods used to keep up a good Harmony with the wild Indians.**

IN my description of the city of Concepcion, I mentioned the enchanting beauties of the neighbouring countries; and the exuberant returns of nature for the husbandman's toil. The like profusion of natural productions is seen all over this kingdom. Its plains, eminences, valleys, in short the whole country to the smallest portion of ground, is an object of admiration. Every particle of earth in this amazing fertility seems transformed in feed. The country round Santiago, as it is not inferior in pleasantness and fertility to that of Concepcion, so also from the great affinity to the climates, its products are nearly the same. Accordingly some farmers wholly apply themselves to corn, others to fattening of cattle; some confine themselves to the breeding of horses, and others to the culture of vines and fruit-trees. The first find their account in plentiful harvests of wheat, barley, and particularly in hemp, which thrives here surprisingly, and surpasses those of the former. The second, at their large slaughters, have great quantities of tallow, grassa, charqui, and sole leather tanned. Of the goat-skins is made Cordovan leather; some tallow is also procured from those creatures. Wines are made here of several sorts, and though not so excellent as those of Concepcion, they are very palatable and of a good body; brandy is also distilled from them. These are the principal articles of the active commerce of this kingdom with Peru, which it supplies with wheat, tallow, and cordage; and by the most careful estimate, the quantity of wheat sent annually from Santiago to Callao, amounts to 140,000 Tanegas, each weighing one hundred and fifty-six pounds; about eight thousand quintals of cordage; and between sixteen and twenty thousand quintals of tallow: besides sole leather, nuts, filberts, figs, pears, and apples; grassa, charqui, and neat tongues: the three last being no inconsiderable articles.

The more northern parts of the kingdom, as Coquimbo, produce olives, the oil of which is preferable to that of many parts of Peru; but being a natural commodity of that kingdom, and consequently not an article of exportation, is consumed at home. The country about Santiago, likewise, produces good olives; but in no great quantity, the genius of the inhabitants having not hitherto led them to make large plantations of those trees.

Besides the commerce carried on with Peru in provisions, there is that of metals, this kingdom abounding in mines of all kinds, but principally of gold and copper, which we shall briefly consider.

The most famous gold-mine known in Chili, is called Petorca, and lies in a country east of Santiago. This gold was formerly highly esteemed, and found in great plenty; but now, on account of a whitish tinge, the value of it is considerably diminished.

This mine, for the length of time it has been worked, is equal to the most celebrated in Peru.

In the country of Yapel, which is situated in the same quarter, but farther to the northward along the Cordillera, are also rich gold-mines, and the metal twenty-three carats fine. In 1710, in the mountains of Lumbanqui near the Cordillera, were discovered mines of gold, silver, copper, lead, tin, and iron, the gold between twenty-one and twenty-two carats fine; but the working, from the hardness of the stone, where, according to the miner's phrase, "the metal arms," was very difficult and laborious. This inconvenience does not however occur in the mountain Llaoin, where the stone is soft, and not less rich in metal, equal in fineness to the former. Besides these, there are other gold-mines, worked with good success at Tilti, near Santiago.

Betwixt Quillota and Valparaíso, in a part called Ligua, is a very rich gold-mine, and the metal greatly esteemed. Coquimbo, Capiapo, and Guasco, have also gold-mines, and the metal found in the two last, is, by way of pre-eminence, called Oro Capote, being the most valuable of any yet discovered. Another kind of mines of the same metal has also been found in this kingdom; but these were exhausted almost as soon as they were opened. Mines of this kind are very common, as well as another kind called Lavaderos\*, most of which are between Valparaíso and Las Pennuelas, and about a league from the former. Some of them are also found at Yapel, on the frontiers of the wild Indians, and near Conception. These, together with the others known in this kingdom, yield gold-dust. Sometimes, indeed, lumps of gold of considerable magnitude are found; and the hopes of discovering these, animate many to work the mines.

All the gold thus collected in Chili is brought up in the country, and sent to Lima to be coined, there being no mint in Chili; and, by the accounts constantly taken, it amounts, one year with another, to six hundred thousand dollars; but that clandestinely sent by way of the Cordillera is said to be nearly four hundred thousand. Consequently, the whole must be at least a million. In the countries of Coquimbo and Guasco, mines of all kinds of metals are so very common, that the whole earth seems wholly composed of minerals; and it is here those of copper are worked, and from them all Peru and the kingdom of Chili are furnished with that metal. But though this copper exceeds every thing of the kind hitherto known, the mines are worked with great caution, and no more metal extracted than is sufficient to answer the usual demand; and other mines, though known to be equally rich, are left untouched.

In exchange for the grain, fruits, provisions, and metals, which Chili sends to Peru, it receives iron, cloth, and linen made at Quito, hats, bays, though not many of the latter, there being manufactures of the same kind at Chili, sugar, cacao, sweetmeats, pickles, tobacco, oil, earthenware, and all kinds of European goods. A small commerce is also carried on between the kingdom of Chili, Paraguay, and Buenos Ayres, of which the latter is the staple. The products of Paraguay, which indeed consist only in its herb and wax, are carried thither, then forwarded to Chili, whence the herb is exported to Peru. Large quantities of tallow are also sent to Mendoza for making of soap. In exchange for these commodities, Chili sends to Buenos Ayres linen and woollen stuffs, some of which are imported from Peru, and others manufactured in the country: also ponchos, sugar, snuff, wine, and brandy, the two last the traders chiefly

\* These Lavaderos are pits dug in the angles of ravines or trenches made by rain, and in which it is imagined there may be gold, and, in order to discover the metal, a stream of water is turned through it, and the earth briskly spread, that the gold may be carried down with the current, and deposited in the pits.

buy at San Juan, as most convenient for transportation. During the affiento for negroes, they are usually brought to Chili from the factory at Buenos Ayres, the way of Peru being attended with great inconveniences; as in their journey from Panama, they take an opportunity of concealing themselves among the farm-houses; so that, what with the great expence, and the numbers who die during their long rout, by the variety of climates, their purchase must consequently be very high.

The home-commerce of Chili, or that carried on within itself, chiefly consists in the provisions sent to Valdivia to the amount of ten thousand dollars, which, as the deducted part of its remittance, are sent from Lima to Santiago for that purpose. Valdivia furnishes the rest of the places with cedar. Chiloe purchases from the other parts brandy, wine, honey, sugar, the Paraguay herb, salt, and Guinea-pepper; and returns to Valparaíso and Concepcion several kinds of fine wood, in which the island abounds; also woollen stuffs of the country-manufacture, made into ponchos, cloaks, quilts, and the like; together with hams, which, from the particular delicacy of the flavour, are in great request even in Peru, and dried pilchards, the bay and coast of that island being the only places in the South Sea where the fish are caught.

Coquimbo sends copper to Valparaíso; for, though all parts of the Cordillera, towards Santiago and Concepcion, abound in mines of that metal, and particularly a place called Payen, where several were formerly worked, and where masses of fifty or a hundred quintals of pure copper have been found, yet as these mines are now no longer worked, the whole country is under a necessity of receiving their copper from the Coquimbo and Guafo mines; sending thither in exchange cordovan leather and soap, made at Mendoza, from whence it is carried to Santiago, and thence sold to different parts of the kingdom.

Having thus considered the trade of Chili in both particulars, I shall next proceed to mention that carried on with the wild Indians, and this consists in selling them hardware, as bits, spurs, and edge tools; also toys, and some wine. All this is done by barter; for, though the countries they inhabit are not destitute of gold, the Indians cannot be prevailed upon to open the mines; so that the returns consist in ponchos, horned cattle, horses of their own breeding, and Indian children of both sexes, which are sold even by their own parents for such trifles; and this particular kind of traffic they call *Rescatar*, ransoming. But no Spaniard of any character will be concerned in such barbarous exchanges, being carried on only by the *guasos*, and the meanest class of Spaniards settled in Chili. These boldly venture into the parts inhabited by the Indians, and address themselves to the heads of the several families.

The Indians of Arauco, and those parts, are not governed by caciques, or Curacas, like those of Peru, the only subordination known among them being with regard to age, so that the oldest person of the family is respected as its governor. The Spaniard begins his negociation with offering the chief of the family a cup of his wine. After this he displays his wares, that the Indian may make choice of what best pleases him; mentioning, at the same time, the return he expects. If they agree, the Spaniard makes him a present of a little wine; and the Indian chief informs the community that they are at liberty to trade with that Spaniard as his friend. Relying on this protection, the Spaniard goes from hut to hut, recommending himself at first by giving the head of every family a taste of his wine. After this they enter upon business, and the Indian having taken what he wanted, the trader goes away without receiving any equivalent at that time, and visits the other huts, as they lie dispersed all over the country, till he has disposed of his stock. He then returns to the cottage of the chief, calling on his customers in his way, and acquainting them that he is on his return home.

Upon

Upon this summons, not one fails of bringing him to the chief's hut what had been agreed on. Here they take their leave of him, with all the appearance of a sincere friendship; and the chief even orders some Indians to escort him to the frontiers, and assist him in driving the cattle he has received in exchange for his goods.

Formerly, and even till the year 1724, these traders carried large quantities of wine, of which, as well as of all other inebriating liquors, the Indians are immoderately fond; but on account of the tumults and wars that arose from the intemperate use of spirituous liquors, this branch of trade has been suppressed, and no more wine allowed to be carried into the Indian territories than what shall be judged necessary to give the masters of families a cup by way of compliment, and a very small quantity for trading. The happy effects of this prohibition are felt on both sides; the Spaniards live in safety, and the Indians in peace and tranquillity. They are very fair dealers, never receding from what has been agreed on, and punctual in their payments. It is indeed surprising, that a whole people, who are almost strangers to government, and savage in their manners, should, amidst the uncontrouled gratification of the most enormous vices, have so delicate a sense of justice, as to observe it in the most irreproachable manner in their dealings.

All the Indians of Arauco, Tucapel, and others inhabiting the more southern parts of the banks of the river Biobio, and also those who live near the Cordillera, have hitherto frustrated all attempts made for reducing them under the Spanish government. For in this boundless country, as it may be called, when strongly pushed, they abandon their huts, and retire into the more distant parts of the kingdom, where, being joined by other nations, they return in such numbers, that all resistance would be temerity, and again take possession of their former habitations. Thus Chili has always been exposed to their insults; and, if a very few only call for war against the Spaniards, the flame immediately spreads, and their measures are taken with such secrecy, that the first declaration of it is, the murder of those who happen to be among them, and the ravages of the neighbouring villages. Their first step, when a war is agreed on, is, to give notice to the nations for assembling; and this they call *Correa la Fletcha*, to shoot the dart; the summons being sent from village to village with the utmost silence and rapidity. In these notices they specify the night when the irruption is to be made; and, though advice of it is sent to the Indians who reside in the Spanish territories, nothing transpires: nor is there a single instance, among all the Indians that have been taken up on suspicion, that one ever made any discovery. And as no great armaments are necessary in this kind of war, their designs continue impenetrable till the terrible executions withdraw the veil.

The Indians of the several nations being assembled, a general is chosen, with the title of *Toqui*; and when the night fixed on for executing their designs arrives, the Indians who live among the Spaniards rise and massacre them. After which, they divide themselves into small parties, and destroy the seats, farm-houses, and villages, murdering all without the least regard to youth or age. These parties afterwards unite, and, in a body, attack the larger settlements of the Spaniards, besiege the forts, and commit every kind of hostility; and their vast numbers, rather than any discipline, have enabled them, on several occasions, to carry on their enterprizes with success, notwithstanding all the measures taken by the Spanish government to prevent them. For though multitudes of them fall on these occasions, their army continually receives larger reinforcements. If at any time the Spaniards gain the superiority, the Indians retire to the distance of several leagues, where, after concealing themselves a few days, they suddenly fall on a different part from that where they were encamped, endeavouring

ing to carry the place by a sudden assault, unless the commandant's vigilance has provided against any sudden surprise; when, by the advantage of the Spanish discipline, they are generally repulsed with great slaughter.

These Indian wars against the Spaniards usually continue some years, being of little detriment to the Indians; for most of their occupations, which consist in the culture of a small spot of ground, and weaving ponchos and cloaks for apparel, are carried on by the women. Their huts are built in a day or two, and their food consists of roots, maize, and other grain. War, therefore, is no impediment or loss to them; indeed, they rather consider it as a desirable occupation, their hours, at other times, being spent in idleness or carousals, in which they drink *chica*, a liquor common among them, and made from apples.

The first advances towards a treaty of peace with these Indians are generally made by the Spaniards; and as soon as the proposals are agreed to, a congress is held, at which the governor, major-general of Chili, and the principal officers, the bishop of Concepcion, and other persons of eminence assist. On the part of the Indians the *toqui*, or generalissimo, and the captains of his army, as representatives of the communities, repair to the congress. The last inroad made by these savage enemies was in the year 1720, during the government of Don Gabriel Cano, lieutenant-general of His Majesty's forces, who managed the war against them with such vigour and address, that they were obliged to solicit a peace; and their preliminaries were so submissive, that at a congress held in 1724, the peace was concluded, whereby they were left in possession of all the country south of the river Biobio; and the Capitaines de Paz were suppressed. These were Spaniards residing in the villages of the converted Indians, and by their exactions had been the principal cause of the revolt.

Besides the congresses held with these Indians, for concluding a treaty of peace, others are held on the arrival of a new president, and the same ceremonies observed in both; so that an account of the one will be sufficient to give a just idea of the other.

On the holding a congress, the president sends notice to the frontier Indians of the day and place, whither he repairs with the above-mentioned persons; and on the part of the Indians, the heads of their several communities; and both, for the greater splendour of the interview, are accompanied by an escort consisting of a certain number previously agreed on. The president and his company lodge in tents, and the Indians encamp at a small distance. The elders or chiefs of the neighbouring nations pay the first visit to the president, who receives them very courteously, drinks their healths in wine, and himself gives them the glass to do the like. This politeness, with which they are highly pleased, is succeeded by a present of knives, scissars, and different sorts of toys, on which they place the greatest value. The treaty of peace is then brought on the carpet, and the manner of observing the several articles is settled: after which they return to their camp, and the president returns the visit, carrying with him a quantity of wine sufficient for a moderate regale.

Now all the chiefs of the other communities, who were not present at the first visit, go in a body to pay their respects to the president. At the rising of the congress, the president makes each a small present of wine, which the Indians liberally return in calves, oxen, horses, and fowls. After these reciprocal tokens of friendship, both parties return to their respective habitations.

In order to gain more effectually the hearts of these Indians, who, though in our esteem wretchedly poor, conceal the most stubborn pride, which can only be softened by compliments and favours, it is a maxim with the presidents to admit to their table those who are apparently of the best dispositions, and during the three or four days of  
the

the congress, neglects no means of ingratiating himself with the whole body. On these occasions a kind of fair is held at both camps, great numbers of Spaniards repairing thither with such goods as they know will please the Indians, who also come with their ponchos and cattle. Both parties deal by exchange, and never fail of selling their whole stocks; and of observing in their dealings the most exact candour and regularity, as a specimen in which all future commerce is to be conducted.

Though these Indians have shewn such a determined aversion to submitting to the Spanish monarchs, their behaviour has been very different to the missionaries, whom they voluntarily permitted to come among them; and many have even shewed the greatest joy at being baptized. But it is extremely difficult to prevail on them to quit their free manner of living; which being productive of vice and savageness, prepossesses the mind against the precepts of the Christian religion. Before the war of the year 1723, the missionaries, by their indefatigable zeal, had formed several villages, hoping by that means to induce their converts to practise the doctrines of the Christian faith. These villages were called St. Christopher, Santa Fé, Santa Juana, St. Pedro, and La Mocha, all of them being under the inspection of the Jesuits. The chaplains also of the forts on the frontiers had an additional salary for instructing a certain number of Indians. But on that general insurrection, their innate savageness returned, all these converts abandoned the missionaries, and joined their countrymen. On the re-establishment of the peace, they again solicited the missionaries to come among them; and some communities have been since formed; but they are far short of their former promising state, it being very difficult to bring even this small number to embrace a social life.

Amidst all the sanguinary rage of these Indians in their hostilities against the Spaniards, they generally spare the white women, carrying them to their huts, and using them as their own. And hence it is, that many Indians of those nations have the complexions of the Spaniards born in that country. In time of peace many of them come into the Spanish territories, hiring themselves for a certain time to work at the farm houses, and at the expiration of the term return home, after laying out their wages in the purchase of such goods as are valued in their country. All of them, both men and women, wear the poncho and manta, which they weave from wool, and though it cannot be properly called a dress, it is abundantly sufficient for decency; whereas the Indians at a greater distance from the Spanish frontiers, as those who inhabit the countries south of Valdivia, and the Chonos who live on the continent near Chiloe, use no sort of apparel\*. The Indians of Arauco, Tucapel, and other tribes near the river Biobio, take great delight in riding, and their armies have some bodies of horse. Their weapons are large spears, javelins, &c. in the use of which they are very dextrous.

#### CHAP. X. — *Voyage from Conception to the Island of Juan Fernandez; and from thence to Valparaíso.*

THE ships being come to an anchor in the port of Talcahuana, we waited on Don Pedro de Mendinueta, at the city of Conception, who informed us that the commodore Don Joseph Pizarro, together with the land and sea officers, were arrived at Santiago, and that he intended to set out for Valparaíso, in order to hoist his flag on board the *Esperanza*, and take upon him the command of that squadron: on receiving this intel-

\* These Indians now dress like the former. A.

ligence, and having no orders to continue at Conception, we put to sea on the sixth of February, and steering for the place of our destination, made, on the 20th, the island De Tierra de Juan Fernandes, and at half an hour after ten, as we were plying to windward along the coast, and standing towards the island which then bore two leagues west from us, we saw on the top of one of the mountains a bright light, which surprised us the more, as on the following day we saw no traces of any ship's being in the port since we left it. I had a clear view of it from the instant it began, and observed that at first it was very small, and increased, so as to form a flame like that of a flambeau. The full vigour of its light lasted about three or four minutes, when it diminished in the same gradual manner it had increased. It did not appear again all the next night, nor had we during the whole time we were at anchor in the port, any view of such a phenomenon. We sent some of our people on shore to examine all the mountains, and other parts of the island, and they spent several nights on that and the adjacent mountains, but could not discover the least vestige of any fire. As I knew the island to be absolutely destitute, the sanguine colour of the flame inclined me to think there might be some volcano; but having never seen any thing of the kind before, nor heard from others that there was ever any eruption, I was far from being tenacious of my opinion. We had indeed all our conjectures; but the difficulty was not cleared up till my fifth and last voyage to this island, when Don Joseph Pizarro sent some people on shore to take an accurate survey of this place, and the ground was found to be burnt, full of fissures and hot, which verified my first opinion of a volcano.

On the 21st, after coasting along this island, we continued our course for Valparaíso, where our little squadron came to an anchor on the 24th, and were the more pleased, as we found there the president of Santiago, Don Joseph Manfo, and our commodore; and in the harbour, besides the Callao fleet, three French ships, called the Louis Erasme, Notre Dame de la Delivrance, and the Lys, which had been freighted by four merchants as register ships; and Valparaíso was the first port they had touched at, for vending their cargoes.

From several observations made in this harbour by Don George Juan, in the last voyage of 1744, its latitude appears to be  $33^{\circ} 02' 36'' 30'''$ , and Father Feuillée settled its longitude at  $304^{\circ} 11' 45''$  from the meridian of Teneriff. This town was at first very mean, consisting only of a few warehouses built by the inhabitants of Santiago for laying up their goods till shipped off for Callao, the harbour of Valparaíso being the nearest port to that city, from which it is only twenty leagues distant, though the natives will have it to be more. The only inhabitants at that time were the few servants left by their respective masters for taking care of the warehouses, and managing their mercantile affairs. But in process of time, the merchants themselves, together with several other families, removed from Santiago, in order to be more conveniently situated for trade; since which it has gradually increased, so that at present it is both large and populous; and would be still larger were it not for its inconvenient situation, standing so near the foot of a mountain, that a great part of the houses are built on its acclivity, or in its breaches. The broadest and most convenient part is that along the coast, but this is very unpleasant in winter, being so exposed to the north winds, that the waves beat against the walls of the houses, some of which are built of unburnt bricks, some of chalk and pebbles, and others of bajareques.

Valparaíso, besides its parish-church, has a convent of Franciscans, and another of Augustines; but very few religious, and the churches belonging to them small and mean. It is inhabited by families of Spaniards, and Casts, both Mulattoes and Mestizos. In its neighbourhood are several villages, and the great number of farm-houses

give the country a cheerful appearance. Here is a military governor nominated by the King, who having the command of the garrisons in the several ports, and of the militia of the place and its dependencies, is to take care that they are properly disciplined.

The proximity of this port to Santiago has drawn hither all the commerce formerly carried on at that city. To this it owes its foundation, increase, and present prosperity. At present all the Callao ships which carry on the commerce between the two kingdoms come hither. The cargoes they bring are indeed but small, consisting only of the goods already mentioned, as not produced in Chili. But in this port they take in wheat, tallow, cordovan leather, cordage, and dried fruits, and with these return to Callao; and a ship has been known to make three voyages in one summer, namely, between November and June, during which interval the droves of mules and carriages from all the farm-houses in the jurisdiction of Santiago bring fresh supplies to the warehouses, that trade is carried on both by land and sea. The masters of ships, who generally reside at Lima or Callao, enter into partnership with the landed gentlemen of Chili, that the cargo of every ship generally belongs in part to the master; though some ships are freighted, and, if the loading be wheat, greatly augments its value; for the fanega costs here only ten or twelve rials, or two dollars, and the freight is from twelve rials to two piasters. Another circumstance which raises the price of wheat at Callao, where it is sold for twenty-four or thirty rials, is, that the fanega is there only five arobas and five pounds, whereas at Chili the fanega is six arobas and six pounds.

This commerce being carried on only in summer, that season may be termed the fair of Valparaíso; but on the approach of winter the place becomes as remarkably desolate, the crowd of traders repairing to Santiago, those only continuing at Valparaíso who cannot afford to remove.

Valparaíso is abundantly supplied with provisions from Santiago, and other places in its neighbourhood; but ships do not victual here so cheap as at Concepcion. The fruits cannot be viewed without admiration, both with regard to their beauty and size, particularly a sort of apples called Quillota, being brought from that place; they prodigiously exceed the largest in Spain, and, besides their exquisite flavour, are so luscious that they melt in the mouth.

Among the several kinds of game, there is here such a plenty of partridges in their season, which begins at March and lasts several succeeding months, that the Santiago muleteers knock them down with sticks without going out of the road, and bring great numbers of them to Valparaíso. But few of these or any other birds are seen near the town. It is the same thing with regard to fish\*, very little being to be caught either in the harbour or along the coast, in comparison of what may be taken in the other parts.

The coast of Valparaíso forms a bay, lying north-east and south-west, three leagues in length, and having two capes, called Concon, and Valparaíso. In the south-west part of this bay is the harbour, of a convenient size, and running above a league farther up the country. The bottom is a firm tenacious mud. At the distance of a cable's length and a half from the shore, is from fourteen to sixteen fathom water, which increases in depth proportional to the distance, that at the distance of half a league there is thirty-six or forty fathom. The harbour is every-where free from rocks and shoals, except to the north-east of the breach De los Angeles, where, about a cable's length or two from the land is a rock, which must be the more carefully avoided, as it never appears above water, but sometimes has not a depth sufficient for a ship of any burden to pass over it. The

\* They take their fish by shooting a barbed arrow into them, which has a long light shaft, that suffers the fish not to sink after it is wounded. A.

course into this harbour is to keep near the point of Valparaíso, within a quarter of a league from the shore, where there is twenty, eighteen, and sixteen fathoms water. After getting round the point, you must stand nearer to the shore, in order to avoid a bank which lies thereabouts; not that it can be attended with any danger; for the side of it is so bold, that if the ship should touch it little damage could ensue. This bank is always above water, and there is a necessity for passing so near it, in order to keep to windward, as otherwise it would be difficult to fetch the harbour. Regard must also be had to the time proper for entering the port of Valparaíso; for it is by no means proper to attempt it in the morning, as the wind, though blowing fresh without, does not then extend so far into the bay, and thus the ship, by having very little way, and consequently not answering her helm, might drive upon the bank; and to let go your anchor in fifty fathom water, which is the depth close to the sand, will be very inconvenient. The common method, therefore, is to keep in the offing till about noon, or something after, when the wind usually continues to the bottom of the harbour, and then, by observing the above-mentioned rules, the ship will fall into her station without any difficulty; or you may run into the bay, and there come to an anchor till the day following, and then weigh early and go in with the land-breeze, here called Concon, as blowing from that point; and this breeze may be depended on every day at a certain hour, except during the time of the north winds, which cause some alteration in it.

The safest method of mooring ships is lying one anchor on the shore towards the south-south-west, and another in the channel towards the north-north-west. The former must be well secured, as the resource against the south and south-west winds; for though they come over the land, they are often so violent, and the shore of the harbour so sloping, that the ships would otherwise drive.

As soon as the north winds set in, which happens in the months of April and May, the vessels in the harbour are exposed to their whole violence, which also causes a very high sea. In this exigence, the whole security of the ships depends on the anchor and cable towards the north-north-east, it will therefore be very proper to lay another in the same direction; for if it should give way, it would be impossible to hinder the ship from striking on the rocks near the shore. The only favourable circumstance here is, that the bottom being very firm, and rising towards the shore, the anchor has good hold, and consequently the whole depends on the strength of the cable.

CHAP. XI.—*Voyage from Valparaíso to Callao:—second Return to Quito to finish the Observations:—third Journey to Lima, in order to return to Spain by the way of Cape Horn.*

THE service our Squadron was employed on being that of cruising in those seas, in quest of the enemy as long as it should be thought requisite, the commodore, without staying any longer than was absolutely necessary, came on board, and we immediately put to sea, and several times visited the islands of Juan Fernandes, till the 24th of June 1743, when we shaped our course for Callao, which port we entered on the 6th of July. The day following the commodore and principal officers went on shore, and were received by Don Joseph de Llamas, general of the forces in Peru, and government of Callao; who, on account of the first employment, resides at Lima, but was come to Callao to compliment the commodore. He attended him to Lima, and introduced him to the viceroy, who expressed his great satisfaction at his safe arrival after such long expectations. He was also met on the road by the principal persons of the city.

After taking our departure from the island De Tierra de Juan Fernandes, we steered the three first days north-north-east, and north-east, one quarter northernly, having fresh gales at west, and a heavy sea from the south-west. When we came into the latitude of  $28^{\circ} 30'$  we steered north, six or seven degrees easterly, till the third day at nine in the morning, when being in the latitude of  $16^{\circ} 28'$  we made the land on the coast of Chala; and the day following, being the 4th, the island of Sangallan, which at noon bore east-north-east distance six leagues. We then coasted along the shore, and on the 5th at noon, we saw the isle of Asia, bearing east-north-east six leagues distant; and on the 6th as before-mentioned, the squadron came to an anchor at half an hour after one in the afternoon, in Callao harbour.

Hence it appears, that till we were in the latitude of  $28^{\circ} 30'$ , the wind was at south-west, which agrees with my observations, mentioned Chap. III. relating to this sea; and if no other circumstance concurred to verify them, it must be imputed to the season of the year, it being the beginning of winter when we returned to Callao. But as during the first three days, the strength of the wind had driven us near the coast, so from the latitude we found it farther to the south; between twenty-five and twenty-one, began to incline towards the south-east, and from the latitude of twenty degrees, when we found ourselves near the land, till our arrival at Callao, we had the wind south-south-east, and east-south-east. It was the same with regard to the sea coming from the south-west, for it gradually diminished as we approached the coast; so that from twenty-five degrees it was not at all troublesome, and after we were past twenty-one degrees, became imperceptible. But it was very different with regard to the current, which, from the parallel of twenty or twenty-one degrees, we perceived to set towards the north-west, parallel to the direction of the coast, and became much more sensible after we had sight of the land, its velocity increasing as latitude decreased.

I would recommend two precautions to be used in the voyage from Chili to Callao. The first is not to make the land in the bay of Arica, the many eddies of the current there rendering it very difficult to get again clear of the coast; which must be done by keeping along shore; as by standing out to sea, you will be in danger of not reaching the harbour; for the current setting north-west, on standing in for the land, you will probably find yourself to leeward of the harbour; in which case it will be far from easy to work up against the wind and strong current. The second flows from the former, and is to make the land somewhere between Nasca and Sangallan, as the coast may be then kept at a proper distance, and the danger of falling to leeward of the port avoided; a misfortune which has happened to many, who have been carried farther out than they expected; so that after a long look-out for land, they find themselves on its first appearance to leeward of their port.

In winter, especially, too much care cannot be taken, as from the continual thickness of the atmosphere, observations cannot be made so often as requisite; sometimes not for five or six days successively; at the same time the sight of land is entirely intercepted by the density of the fog. This we experienced; for after we were anchored in Callao at only a quarter of a league distant from the land, the people on the shore had no sight of the ships; and it was owing to our being very near the coast that we made the harbour; for had we been at a distance, we should have been far to leeward, when the weather cleared up.

On the 25th of June, being the second day after our departure from the island De Tierra de Juan Fernandes, we saw a meteor like that we had before seen at Quito, namely, a globe of fire, or large globe of inflammable exhalations. It first appeared in the west, at half an hour after three in the morning, and moved with great velocity

for a considerable space towards the east, as if carried by the wind. The light of this meteor was such, that the watch on the quarter-deck could plainly distinguish every person on the fore-castle; and both were not a little terrified. The phenomenon lasted between three and four minutes, and half an hour after we felt two violent shocks, at an interval of about a minute and a half betwixt them, so that all apprehended the ship had struck on some shoal; but on reflection, we concluded it to be the effect of an earthquake.

The squadron being safely arrived at Callao, with the commander-in-chief of the South Sea, a title given to Don Joseph Pizarro, and a sufficient number of officers of such distinguished zeal and experience, that they might well supply our place without detriment to the service; and at the same time, we being willing to put the finishing hand to our principal work, we asked the viceroy's leave to return to Quito; but his excellency was desirous that we should first complete some particulars he had committed to our care. Accordingly we applied ourselves assiduously to our work; and Don George Juan, having finished his part first, left Callao on the 14th of November, proposing to make all the necessary preparatives against my arrival, that the proper observations might be made without delay. On the 27th of January 1744, I reached Quito, where I found that Don George Juan had, by his extraordinary care, nearly finished every thing necessary for the continuation of our work; and whilst the remainder was performing, we had an opportunity, in conjunction with M. Godin, the only French academician now remaining in this province, of observing the comet which appeared this year.

Though the comet might have been seen on the 2d and 3d of February, the atmosphere of Quito being so unfavourable to astronomical observations on account of the clouds, it was the 6th before we could observe it. The comet was then near the western part of the horizon, and being behind the mountain of Pichincha, its altitude concealed it from our sight, so that we could not observe it after seven or eight at night. On the 6th, at seven in the evening, we found its altitude above the horizon to be fifteen degrees, and its azimuth from the north, seventy-two degrees; M. Godin and Don George Juan judged its nucleus to be oblong, to me it appeared perfectly circular; but we all agreed that it was larger than Jupiter. The tail, which was discerned through some light clouds, seemed to extend two degrees, and to form with the vertical circle, an angle of near thirty degrees.

On the 7th, at eight minutes after seven in the evening, on repeating our observations, we found its altitude to be  $11^{\circ} 11'$ , and its azimuth from the north  $72^{\circ} 45'$ . From this second observation, which we considered as more accurate than the former, having made proper allowances for refraction, we concluded that the right ascension of the comet was  $332^{\circ} 50'$ , and that its northern declination was  $20^{\circ} 5'$ . Whence we inferred, that its trajectory was the same with that observed in 1681 by Cassini, and by Tycho Brahe in 1572, and that in all probability, it was the same; for though the periods do not agree, it might have appeared twice in the first interval. After this we were hindered from prosecuting our observations by the cloudiness of the nights; and some days afterwards we were assured by several, that they had seen it in the morning.

As all the triangles on the north side from Pambamarca to the place where M. Godin had made his second astronomical observations were not completed, and the instrument constructed for that purpose kept in readiness, we made that our first task; M. Godin not having then gone through them all. After finishing every thing here, we repaired on the 22d of March to the observatory De Pueblo Viejo de Mira, where, meeting with  
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the same difficulties from the thickness of the atmosphere as we had before experienced during the whole course of our operations, we were obliged to continue there till the 22d of May, when, being satisfied with the accuracy of the observations made during this long interval, we returned to Quito, with the pleasing expectation, that our perseverance against the constant difficulties we met with from the clouds was at last come to a period; and that we should now rest from the toils and hardships of living on frozen deserts; a repose the more pleasing, as it was accompanied with a consciousness that no inconveniences had occasioned us to omit the least part of our duty.

During our stay at Mira, Don George Juan applied himself to observe the variation of the magnetic needle, and by four observations nearly coincident, he concluded to be nearly  $8^{\circ} 47'$  easterly.

We now began to deliberate on our return upon the favourable opportunity of the above-mentioned French ships, which were preparing to sail for Spain; as we should then pass round Cape Horn, and not only complete from our own experience, an account of the South Sea, but be enabled to make observations on the whole course. Another, and indeed our principal motive was, the safety of our papers, concluding there could be no danger in a neutral ship, as we then imagined those to be. The concurrence of so many advantages immediately determined us; and leaving Quito we set out for Lima, where I arrived first, Don George Juan having some days been detained at Guayaquil by a fresh commission by the viceroy. These ships, not failing so soon as expected, I employed the interval in drawing up an extract of all interesting observations and remarks, and presenting it to the viceroy, who was pleased to order the papers to be preserved in the secretary's office, that if any misfortune should happen to us in the voyage, our sovereign might not be totally disappointed in his generous views of promoting the useful sciences of geography and navigation.

While we were employed in finishing our observations at Mira, the university of Lima gave a remarkable testimony of their sense of M. Godin's eminent talents, by choosing him professor of mathematics, in the room of Don Pedro de Peralta, deceased; which he accepted of with the greater satisfaction, as some indispensable affairs of his company would not permit him to gratify his desires of returning to Europe. Accordingly he proposed to spend this interval in making fresh observations and experiments, concluding that the atmosphere of Lima, during the summer-season, would be more favourable to his designs than that of Quito or the mountains. On his arrival at that city, the viceroy, who was no stranger to his great abilities, and pleased with the prudent choice of the university, conferred on him, at the same time of his being invested with the professorship, the post of cosmographer to His Majesty; with other advantages annexed to it. But this gentleman was far from proposing to make any longer stay there than what these affairs required; no advantages or honours being sufficient to make him forget the obligations he was under of giving an account of his voyage and observations to his sovereign and the academy, especially as being the eldest of the three academicians; so that all the testimonies of esteem could not suppress his uneasiness at the delay.

M. de Jussieu, though with the same regret as the former, determined to continue some time at Quito, with M. Hugot, till he saw what turn the war would take, that he might escape, in his return to Europe, those dangers then so common at sea. M. Verguin chose to go by the way of Panama: and the others, except the two who died in the country, one at Cayambe and Cuenca, were dispersed; one settling in Quito.

Quito. Thus, the whole French company separated: and it must be considered as a singular happiness that, after such a scene of labours, hardships, and dangers, in such a variety of climates, and amidst such inhospitable deserts and precipices, our operations were accurately performed: and we capable of entering on a new scene of dangers and difficulties, which it was our fortune to experience before we were in a condition of presenting this work to the public.

## VOYAGES AND TRAVELS

INTO

*BRAZIL.*

WITH

A PARTICULAR ACCOUNT OF ALL THE REMARKABLE PASSAGES THAT HAPPENED DURING  
THE AUTHOR'S STAY OF NINE YEARS IN BRAZIL;

Especially in relation to the Revolt of the Portuguese, and the intestine War carried on there  
from 1640 to 1649.

By MR. JOHN NIEUHOFF.\*

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## ADVERTISEMENT TO THE READER.

**I**T is about nineteen years, since my brother, John Nieuhoff, just before his second voyage into the Indies, presented me with his description of China, and certain draughts he had made during his embassy in that empire, which, being afterwards published, were soon after translated into six several languages.

My brother had, before that time, not only been in Brazil, and several other places in those parts, but also since that time, has had the opportunity of travelling through a great part of Asia, till 1671, when, returning into Holland, he brought along with him all his papers, observations, and draughts, he had collected during his voyages; which, though much coveted by all curious persons, yet for some reasons best known to himself, he did not think fit to commit to public view.

But, after his decease, considering with myself that such useful collections ought not to be buried in oblivion, I thought fit to publish them for the public good.

As those things which he relates of the revolt of the Portuguese in Brazil, are extracted *verbatim* out of the records kept during my brother's abode of nine years in Brazil, under the government of the lords, Henry Hamel, Peter Bas, and Adrian Bullestrate, and authentic letters; so the truth thereof admits not of the least doubt from unbiassed persons.

The vast countries through which my brother travelled in his life-time, as Brazil, part of Persia, Malabar, Madura, Coromandel, Amboyna, Ceylon, Malacca, Sumatra, Java, Tagowan, and part of China, besides many islands, could not in the least infect him with that disease, so incident to travellers, to relate fables instead of histories, it having been his constant practice to adhere most religiously in all his treatises to the naked truth, without the least disguise.

His last voyage to the isle of Madagascar, where he was lost, I have taken partly out of his own letters, partly out of the journal of Captain Reinard Claeson, which he brought along with him from thence.

As to his person, I will only add thus much: he was born at Uffen, in the earldom of Benthem, (where his father, brother, and brother-in-law, were all three Burgo-masters) of a good family, the 22d of July 1618. He was a comely person, of a good understanding, good humoured, and agreeable in conversation; a great admirer of poesy, drawing, and music: as he delighted in travelling, so he was thereby become master of divers languages: in what station he lived during his abode in Brazil, and the East Indies, will best appear by the two following treatises.\*

HENRY NIEUHOFF.

## VOYAGES AND TRAVELS INTO BRAZIL.

**I**N the year 1640, I entered into the service of the West India company, and on the 24th of October went in the quality of merchant-supercargo, aboard the ship called the Roebuck, of twenty-eight guns and one hundred and thirty men, commanded by Nicholas Selles of Durkendam. We set sail out of the Texel the same day, in company of several other vessels bound for France, Spain, and the Streights; and pursued our voyage the 28th, with a favourable gale, through the channel betwixt France and England.

On the 29th we were overtaken with a most violent tempest, which obliged us to take in all our great sails: it continued from morning to night, when the fury of the winds being somewhat allayed, we found that we had escaped without any considerable damage; but the sea continued very turbulent all that night. The next day following, our seamen caught a wood-snipe, a wild pigeon, and several other small birds, which were forced into the sea by the violence of the storm.

On the 31st we found ourselves under the forty-fifth degree of northern latitude. The next morning, being the first of November, some of our seamen caught a sea-hog, by means of a harpoon: it was so big, that four men could scarce lift it into the ship. Its taste was not very agreeable, but rankish, which was the reason our men did not catch any more of them, though they swam in vast numbers round about our vessel. By sun-set, the wind beginning to increase, we parted from the other ships bound for Spain and the Streights, which were not separated from us in the last storm, steering our course south-west. The 2d and 3d it blew very hard, with thunder and lightning, so that we were forced to take in all our great sails, and the ship being very leaky ever since the last tempest, to ply the pump with all our might.

The 4th we found ourselves under  $40^{\circ} 30'$ , when, about midnight, the wind increased with so much violence, that the air which surrounded us appeared no otherwise than one continual fire, occasioned by the lightning, which scarce ever ceased all that night. During this calamity we perceived certain small fires or lights, fixed to the mast: they are called Peaceable's Fires by the seamen. These fires are supposed to be certain sulphureous vapours, forced by the violence of the winds from the shore into the sea, where, being lightened by the violent agitation of the air, they burn till their oily

\* The Voyage to the East Indies is omitted.

substance be consumed. The seamen look upon them as a good omen, that the storm is going to abate; which proved true in effect, the fury of the winds beginning to allay from that time; and we had the good fortune to discover two leaks near our fore-castle, which else might have proved of dangerous consequence.

The 5th, we passed the Barrels, under the thirty-ninth degree; where, according to an ancient custom, every one, of what quality or degree soever, that has not passed there before, is obliged to be baptised, or redeem himself from it. He that is to be baptised, has a rope tied round his middle, wherewith he is drawn up to the very top of the bowsprit, and from thence three times successively tumbled into the water. There were some who looked very blank upon the matter, but others went cheerfully about it, and for a measure of Spanish wine suffered themselves to be rebaptised for the master and the merchant. But this custom is abolished of late years, by special orders from the governors of the company, to avoid broils and quarrels, which used often to arise upon this occasion.

The 6th, as we were steering our course south-south-west, with a fresh gale, we descried two vessels, making all the sail they could towards us, whom we supposed to be Turkish pirates (as indeed they proved afterwards); it was resolved to defend us till the utmost extremity. Accordingly orders were given to clear every thing upon the deck, and to furnish the seamen with musquets, hangers, pikes, and other such like weapons. Every one having taken his station, we put up the bloody flag, and expected their coming under the sound of our trumpets. The master of the ship, being all that time very ill of some wounds he had received formerly, which were now broken up afresh; and the commissary, Francis Zweers, not being in a condition, by reason of his great age, to remain upon deck, I was fain to undertake the whole management of the ship, and encouraged them to fight bravely for their lives and liberty, ordering them not to fire at all, till they were in their full reach, they being much better manned than we.

About noon we saw the Turks make up towards us, with orange-coloured flags, which however they soon after changed for the bloody flags, and the biggest of them saluted us with two cannon-shot out of his fore-castle, without doing us the least harm, but the second time almost shot our fore-mast in pieces. In the mean-while we were come so near to one another, that we sent them a good broadside into their ship, which the Turks repaid us immediately; but it was not long before we observed the biggest of the two had received a shot betwixt wind and water, which made her keep at some farther distance, till she had repaired her damage, which gave me opportunity to encourage our people with words, and a good proportion of wine, which they mixed with some gunpowder; and I, to please them, followed their example.

By this time they returned both to the charge, and saluted us so fiercely with their cannon and small shot, that they took away the roof of our great cabin, and did us some damage in our rigging. I then changed my scymetar for a musquet, and discharged continually upon the enemy, and I found myself sore several weeks after, by the hurt I received from a musquet of one that stood hard by me, which being by a cannon-ball forced out of his hands against my body, I fell down, stretched all along upon the deck, without sense or motion; but having after some time recovered myself, I returned to my post. I then perceived the captain of the biggest Turkish ship with a turbant on his head, in the stern, encouraging his men, which made me order those about me to aim at him with their small shot, which, as I suppose, succeeded according to our hopes, it being not long before we lost sight of him. Notwithstanding this, the heat of the fight increased on both sides, many broadsides passing betwixt us,

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accompanied with most dreadful outcries and lamentations of the wounded on both sides. However, the Turks durst not attempt to board us; whether it were that they thought us better manned than really we were, or that they feared we would set fire to the ship, which we threatened we would, shewing them a match ready for that purpose. They answered us in Dutch, that they would not part with us upon those terms; yet was it not long before we saw them make away from us, having received many shots through their ships; and we, with a brisk gale, made all the sail we could to be rid of these unwelcome guests, steering a quite different course, which, with the advantage of the darkness of the night, brought us quite out of sight of them by next morning.

We gave thanks to God for his having delivered us from the danger of slavery, and crowning our endeavours with success against an enemy much stronger than us, the biggest of them carrying twenty-four guns, and the other two; whereas we had no more than eighteen, besides that they were much better manned than we. After having taken a view of our ship, and found it found under water, we betook ourselves to repair the damage we had received during the fight; but whilst we were busy in this work, we were on the 7th surprised by so violent a storm, that we were forced to take in all our sails. This put us to a great nonplus, but by good fortune the storm blew soon over, when orders were given to give an allowance of three pounds and a half of biscuit per week to the seamen, all our other bread being become musty by that time. The 10th we found ourselves under the thirty-ninth degree and thirty minutes, about twenty leagues off of the Canary Islands; here we discovered the pike of Teneriff, being two leagues and a half high, and accounted the highest mountain in the world. It may be discovered at sixty leagues distance from the shore. Thus we continued our voyage till the 14th, without any memorable accident, when we passed the tropic of Cancer. About noon we were overtaken by another storm, which made us take in most of our great sails, for fear of the worst, but it lasted not long.

This tract of the sea is called by the Dutch, the Kroos Sea; by the Portuguese, Mar del Aragaco (or Largaco, or Suargaco), i. e. the Sea of Ducks-meat, because hereabouts, viz. from the eighteenth to the thirtieth degree, or as some will have it, from the twentieth to the twenty-second and twenty-third degree of northern latitude, it is found in great quantity, and carried along with the stream: its leaves are of a pale green colour, like that of parrots, small, thin, and carved at the end. It bears berries of the same colour, about the bigness of a pepper-corn, but are quite hollow, without any seed within or taste. It is sometimes so closely twisted together, that it stops a ship in its full course; though we had the good fortune to pass through it without much difficulty, being then about four hundred leagues from the coast of Afric, where are no islands nor anchorage. It may be pickled with salt and pepper, and used like as we do capers, being accounted a good remedy against the gravel. It is generally found without roots, having only a few thin sprouts, which, as it is supposed, take root in the sandy grounds of the sea; though others are of opinion, that it is carried by the violence of the stream from the islands into the sea.

The 18th, one of our ship's crew died, who was the next day thrown overboard, at which time I observed, what indeed I had heard often before, that the dead carcases always float with their heads to the east at sea.

The 22d we were overtaken by another tempest, called Travado, which with horrible thunder and lightning surprises the ships so suddenly, that they have scarce leisure to take in their sails, and sometimes returns three times in an hour. We caught here abundance of fish, such as Bonytes of ten feet long, and Korets, and a great lamprey, which we had enough to do to bring aboard; we only took out the brains, being

looked upon as a sovereign remedy against the stone in the bladder, the flesh being of an oily taste.

The 24th we saw great quantities of small birds about our vessel, and caught one not unlike a crane, but somewhat smaller, it being a very fair day.

The 26th, being under the fifth degree forty-seven minutes, we were so becalmed that we could not perceive the ship to move, and spent our time in catching of fish, of which we had such plenty, that we chose only the best for our eating; among the rest we met with a fish called the king's-fish: for by reason of the impenetrable depth of the sea in this place, the waters are so clear and transparent in still weather, that you may see the fish in vast numbers swimming near two feet deep; so that you need but fasten a crooked nail or any thing else like a hook to a string, and hanging it in the sea, you may catch as many fish as you please. This calm was followed by a most violent storm of rain.

The 30th we found ourselves under the fourth degree forty-one minutes, where we saw abundance of flying-fish.

The 3d of December we came under the first degree thirty minutes, where we met with millions of fish, and did catch as many as we thought fit: some we put in salt, others we rubbed in the belly with pepper and salt, and hung them up by the tail in the sun.

The 4th, by break of day, being very clear weather, we saw the island of St. Paulo, as it is called by the Portuguese, which at a distance represents a sail, which as you approach nearer to it, proves five high rocks. About noon we found ourselves at fifty-three minutes of northern latitude, taking our course five leagues to the west. Here at several times we caught some sea-gulls; those birds make a shew as if they would bite you, but remain immoveable in the place, till they are caught or killed.

The 5th, about eleven o'clock we passed the equinoctial line, so that in the afternoon we found ourselves at five minutes southern latitude, where we had but little reason to complain of cold; it being often so calm here, that ships are forced to spend a considerable time in passing this tract. It is extremely hot here, and great scarcity of good and sweet water, the rain-water being not wholesome, but causing the scurvy, by reason of its being corrupted by the violent heat of the sun.

About three years after my arrival in Brazil, a certain Portuguese ship was found adrift under the equinoctial line, without any living creature in it, which, according to the journal, had been six whole weeks under the line. We had a very good passage, and caught abundance of fish, and among the rest a certain fish called the blower, which swallow a considerable quantity of water in their guts, and then at once spout it forth again. They will follow the ships for a long time.

The 8th we passed by the isle called Ilha Ferdinando of Neronha; it being very serene weather, we saw vast numbers of birds, and whole shoals of flying fish, which were followed by the Bonytes and Korets.

The island of Ferdinando of Neronha, situated under the fourth degree of southern latitude, about fifty leagues from the coast of Brazil, was about the year 1630 inhabited by the Dutch, but by reason of the vast number of rats, which consumed all the fruits of the earth, deserted by them a few years after; it being otherwise a very fruitful island, and abounding with fish, the inhabitants of Receif being used to send their fisher-boats thither, which return commonly well freighted with fish. The council of Brazil did afterwards send a certain number of negroes thither, under the conduct of one Gellis Vepant, to cultivate the ground for their subsistence, who likewise stayed there for some time. About a-year and a half after, the council of justice banished several

several malefactors into that island, who, being furnished with necessary instruments for cultivating the ground, were forced to seek for their sustenance there.

The 11th at night we found ourselves under the seventh degree, over against the province of Goyana, about twenty leagues on this side of Olinda; with break of day we saw the shore of Brazil, but kept out at sea till it was broad day.

The 12th it was very foggy, and we kept our course with fair wind and water all along the coast, and arrived before noon safely near the Receif, where we cast our anchor at several fathoms depth, after we had spent seven weeks and one day in the voyage.

After we had returned our thanks to God for his deliverance from the dangers of the sea, and slavery of the Turks, I went ashore the same night with the master and commissary in a boat, to notify our happy arrival, and to deliver a letter to Count Maurice, and the governor of the council. I continued ashore that night, but returned aboard the next day. And,

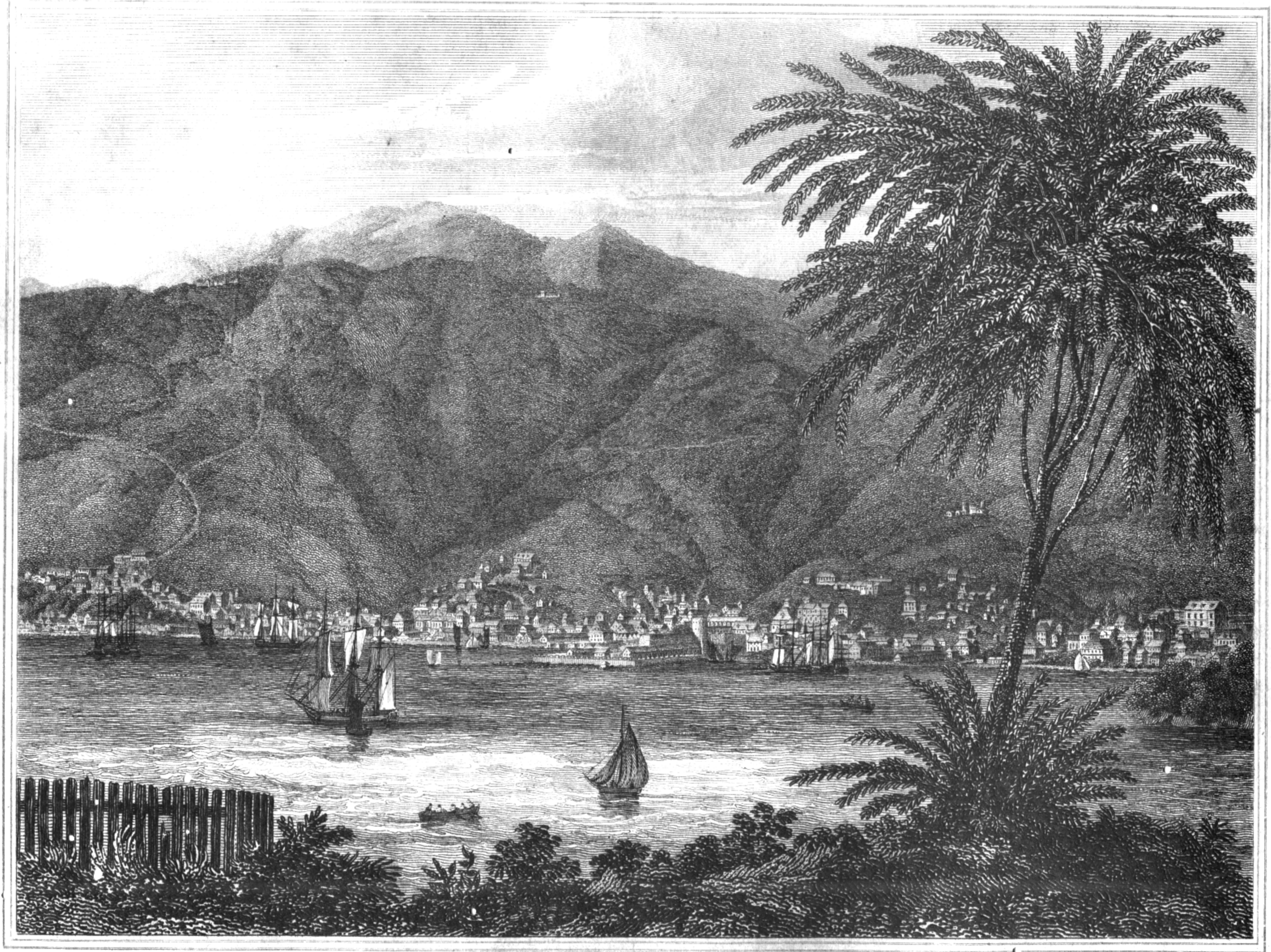
The 15th the pilots conducted our vessel into the harbour of the Receif, where we found twenty-eight vessels and two yachts lying behind the Water Castel.

Towards the latter end of August 1643, I received orders from the council to sail with the yacht called the Sea Hog, loaden with fullers-earth, to the isle of St. Thomas, to exchange it for black sugar, this being the chief commodity transported from thence. My voyage proved fortunate enough, not meeting with any sinister accident, except with a violent tempest of thunder, lightning, and rains, and came the 9th of September at an anchor there; the cargo did bear no good price, yet after a stay of fourteen days, I returned with a cargo of black sugar to Brazil, where I arrived the 3d of October before the Receif, after a voyage of near three months.

The isle of St. Thomas is of a circular figure, about thirty-six leagues in compass; the high mountains in the midst of that island are always covered with snow, notwithstanding that in the low grounds, by reason of its situation under the line, it is excessive hot. It is very fertile in black sugar and ginger; the sugar-fields being continually moistened by the melted snow that falls down from the mountains. There were at that time above sixty sugar-mills there; but the air is the most unwholesome in the world, no foreigner daring to stay so much as one night ashore, without running the hazard of his life; because by the heat of the sun-beams such venomous vapours are drawn from the earth, as are unsupportable to strangers. This fog continues till about ten o'clock in the morning, when the same is dispersed, and the air cleared, which made us always stay abroad till after that time. This mist is not observed at sea.

The air here is very hot and moist throughout the year, except in the summer about June, when the south-east and south-west winds abate much of the heat of the climate. The vapours drawn up by the sun, occasion certain epidemical intermittent fevers, which carry off the patient in a few days, with excessive pains in the head, and violent torments in the bowels; though some attribute it to the immoderate use of women, and of the juice of cocoas. Certain it is, that among a hundred foreigners, scarce ten escape with life, and those seldom live till fifty years of age; though some of the inhabitants, as likewise the negroes (who are all lousy here), live to a great age. Its first inhabitants were Jews, banished out of Portugal; they are of a very odd complexion. Among the mountains dwell abundance of negroes, who are run away from the Portuguese, and make sometimes excursions to the very gates of the city of Pavaofa. It is almost next to a miracle, that any people should inhabit so unwholesome a climate; but that the hopes of lucre makes all danger easy.

The



Engraved from a large Print, by Permission of Messrs. Boydell & Co.

*View of the Island of St. Thomas,  
taken from Havensicht.*

The city of Pavaosa, belonging to this island, is situate upon a rivulet; it contains about eight hundred houses, and three churches. This city, as well as the whole island, was, October 16, 1641, conquered by the Admiral Cornelius Tol, after a siege of forty days, without any considerable loss; but both he and his lieutenant, as well as several other commanders and many seamen, were swept away by this pestilential air; and of three hundred Brazilians, not above sixty escaped with life.

But before I proceed to give you an account of all the remarkable passages that happened in Brazil since the revolt of the Portuguese, and during my stay of eight years there; it will not be amiss to give a short description of this country.

### *A Description of Brazil.*

AMERICA, (or the West Indies,) is divided into the Northern and Southern America. Brazil is part of the last.

The Northern America borders to the north upon the Terra Incognita, or rather upon Hudson's Straights; to the south and west upon the South Sea, and to the east upon the straits of Panama, the bay of Mexico or Nieu Spain, and the North Sea.

It comprehends the following provinces:

Estotiland and Labrador, New France, Canada, Bakaloos, New England, Virginia, Florida, New Spain, the provinces of Mexico, New Mexico, Tlaskalla, Guaxaka, Mechoakana, Zakatula, Kolim, Yukatan, Tabasko, New Galicia, New Biscay, Chiometla, Kuliaka, Cimalon, New Granada, California, Anian, Quivira or New Albion, Conibas, Guatemala, Sokonusko, Chiapa, Vera-pas, Honduras, Nikaragua, Costarika, and Veragua.

The Southern America is a demi-island in form of a pyramid, the basis of which lies to the north; the point extends to the Straights of Magellan, under the fifty-third degree of southern latitude, bordering to the east upon the Atlantic ocean, or North Sea, and to the west upon the South Sea; its whole circuit being of about four thousand Italian, or one thousand German, miles. It contains the provinces of Castilla d'Or, Tierra Ferma (called by the Portuguese, Paria), Cumana, Caribana, Brazil, Chika to the east, to the west Popayan, Peru, Chili, besides several inland provinces.

Brazil was first discovered by Pedro Alvaro Capralis, a Portuguese, some time before Americus Vesputius, viz. the year 1500. He gave it in the name of Santa Cruz, which was afterwards by the Portuguese changed into that of Brazil, from the wood of the same name, which is found there in great quantity, and from thence transported into all parts of Europe, for the use of the dyers.

It is situate in the midst of the torrid zone, extending to the tropic of Cancer and the temperate zone.

Concerning its extent from north to south, there is no small difference among the geographers; but, according to the best computations, its beginning may be fixed under the second degree and a half of northern latitude, near the river Pata, and its end under the twenty-fourth degree and a half of southern latitude, to the river Capibari, two leagues above the city of St. Vincent; so that its whole extent from north to south comprehends twenty-five degrees, or three hundred and seventy-five leagues; some place Brazil betwixt the river of Maranhaon and Rio de la Plata. The extent of Brazil from the east, where it borders upon the North Sea, to the west, is not determined hitherto, there being very few who have penetrated so deep into the country, though its bigness from east to west may be computed to be seven hundred and forty-two leagues; there are

are some, however, who extends its limits farther to the east, and to the west as far as Peru or Guiana, which makes an addition of one hundred and eighty-eight leagues. Some make the boundaries of Brazil to the north the river of the Amazons, to the south Rio de la Plata, to the east the North Sea, and to the west the mountains of Peru or Guiana.

Brazil, thus limited, is divided by the Portuguese into fourteen districts, called by them *kapitania*, or captainships; viz. Paria, the first of all towards the north; Maranhon, Siara, Potigi or Rio Grande, Paraiba, Parnambuko, Tamarika or Itamarika, Seregippe del Rey, Quirimune or Bahia dos todos los Santos, Nhoe-Kombe or Os Ilhos, Pakata or Porto Securo, Rio de Janeiro or Nheteroya, St. Vincent, and Espiritu Santo.

Whilst part of Brazil was in our possession, it might conveniently be divided into the Dutch and Portuguese Brazil. Each of these captainships is watered by some considerable river or other, besides several others of less note; most of these have very rapid currents in the rainy months, and overflow the adjacent country.

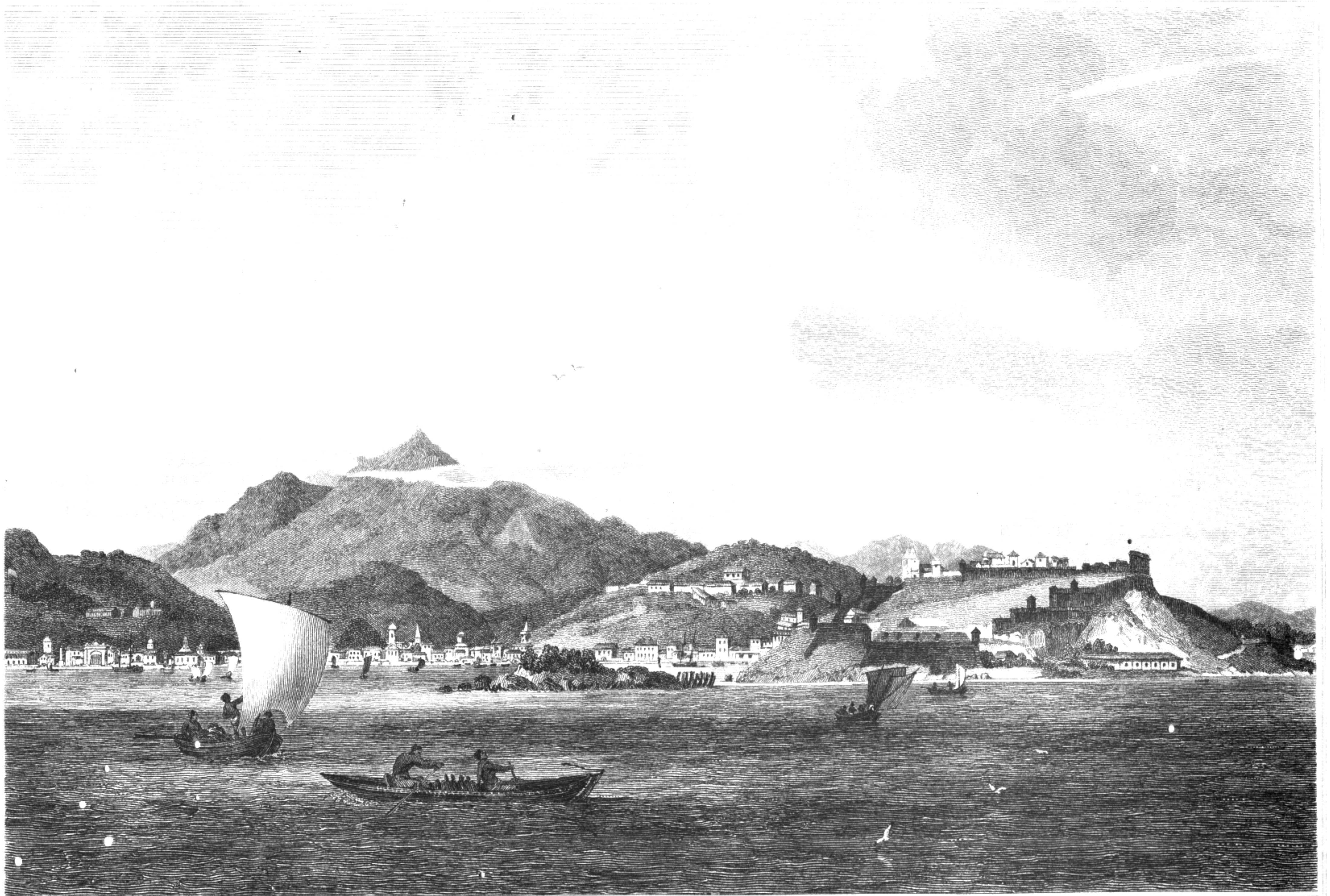
The river of St. Francis, the largest and most considerable in those parts, is the common boundary of the captainship of Parnambuko and Bahia dos todos los Santos, or the Bay of All Saints. In some places it is so broad that a six-pounder can scarce reach over it, and its depth is eight, twelve, and sometimes fifteen yards; but it admits of no ships of burthen, because its entrance is choked up with sands.

Its first spring is said to arise out of a certain lake, which being augmented by many rivulets out of the mountains of Peru, but especially by the rivers of Rio de la Plata and Maranhon, exonerates itself into the sea. Some of our people went in a shallop near forty leagues up the river, and found it of a good depth and pretty broad. If we may believe the Portuguese, there are about fifty leagues from the sea, certain impassable cataracts or water-falls, called by them *Kakocras*; beyond those the river winds to the north, till you come to its source in the lake, in which are many pleasant islands, inhabited by the barbarians; as is likewise the shore round about it. They find good store of gold-dust in this lake, but it is none of the best, being carried thither by the many rivulets which wash the gold-bearing rocks of Peru: here is also most excellent salt-petre.

It is observable, that in the summer, and those winter months when it rains but seldom, this river has more water than in the rainy season: the reason alleged for it is, the vast distance from its first source, whither the rains that fall from the mountains must first be conveyed by many rivulets. All the other rivers near the Receif are so empty of water during the summer season, that they are rendered quite unnavigable. But the ridges of mountains, which lie not far from the sea-shore, exonerate their waters, as well here as in Peru, backward to the west, and dividing themselves into two branches; the first runs to the north, and joins with the most large and rapid rivers of Maranhon and of the Amazons; the other with the rivers of St. Francis de la Plata and Janeiro. The waters of these rivers being considerably increased by many rivulets, they exonerate themselves with so much violence into the sea, that the seamen meet often with fresh water at a considerable distance at sea.

The increase of the waters in this river, during the dry season, may likewise be attributed to the vast quantity of snow among the mountains, which being melted by the heat of the sun, occasions the river to transgress its ordinary bounds; which in this point is quite different from other rivers, which commonly in the winter-time overflow their banks.

Six of those captainships were under the jurisdiction of the West India company, before the Portuguese revolted from the Dutch, which they had conquered with their  
swords,

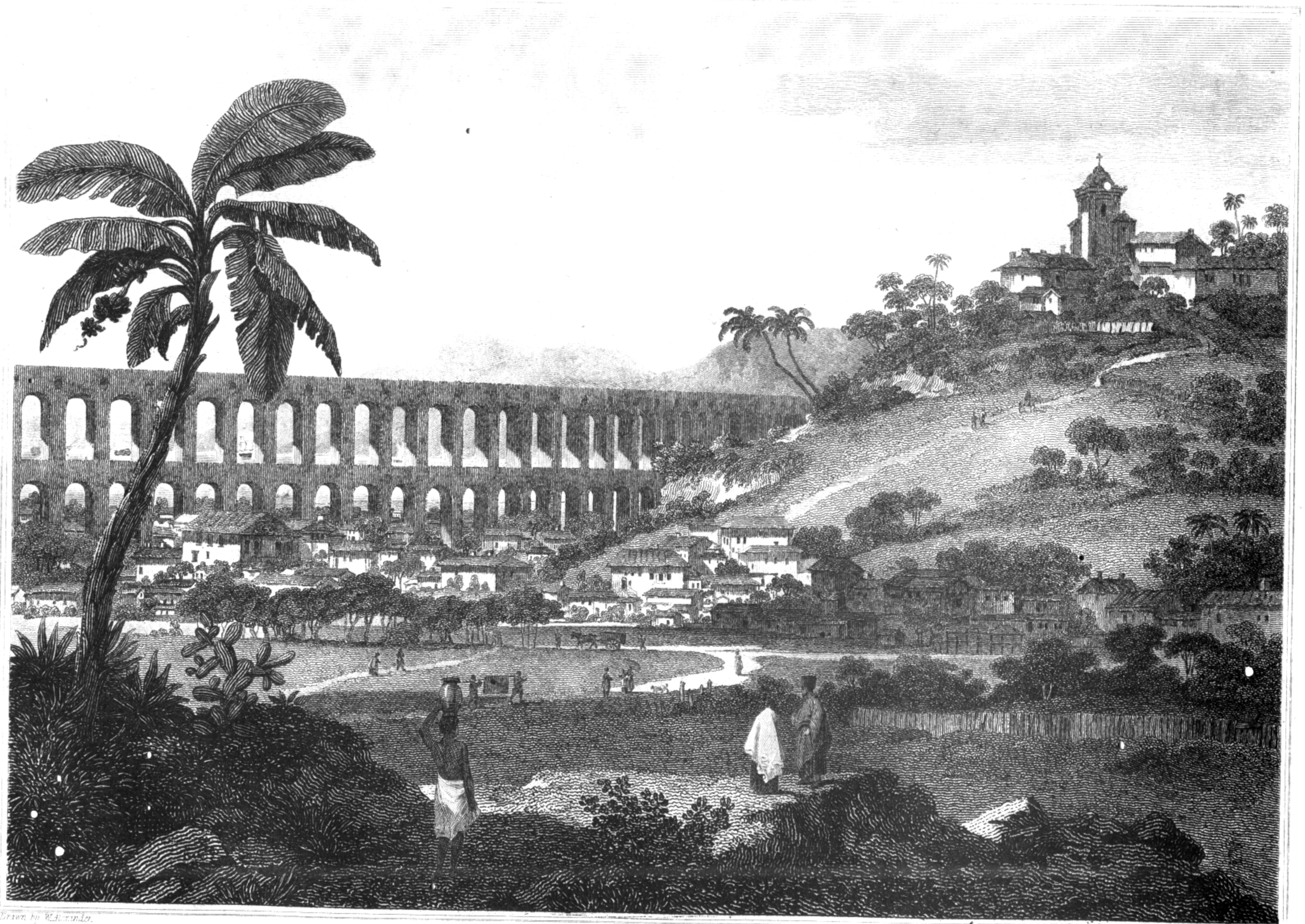


Drawn by W. Alexander.

Engraved by George Cooke.

*City of St. Sebastian Rio de Janeiro*  
(Decr 1792.)

Printed and Published by Longman, Hurst, Boscawen & Co. in Pall Mall, London.



Drawn by W. Alexander.

Engraved by George Cooke.

*The Aqueduct in Rio de Janeiro*  
taken Oct. 1802.

swords, viz. the captainship (it being on the south side) Seregippe del Rey of Parnambuko, Itamarika, unto which belongs Gauiana, Paraiba, Potigi or Rio Grande, and Siara or Ciara. The captainship of Maranhon was 1644, by special command of the company, left by the Dutch. This part of Brazil used to be called by the Portuguese the Northern Brazil, as the other remaining in their possession went by the name of South Brazil.

The six Dutch captainships did extend all along the sea-coast from north to south, in length about a hundred and sixty or a hundred and eighty leagues; for from Rio Grande to the northern border of Seregippe del Rey, is a hundred leagues: the two others, viz. that of Siara to the north, and Seregippe del Rey to the south, make up the rest. Each of these captainships contain several other lesser districts, called by the Portuguese Fregeſias, and by us Fregeſien: as for instance, in Seregippe del Rey, are Pojuka, Kameragibi, Porto Calvo, Serinhaim, and several others. Fregasie comprehends a certain tract of ground, composed of divers villages, rivers, hills, and valleys, betwixt each of which is commonly a tract of barren hills, of about three or four leagues in length. Most of the Dutch captainships are but indifferently cultivated, because the Portuguese used not to manure the ground in those parts beyond three or four, or, at farthest, five leagues distance from the sea,

The captainship of Seregippe del Rey is likewise called Carigi, from a certain small lake of that name; it is situate in the southern part of Brazil, extending about thirty-two leagues along the sea-coast, bordering on the north side, upon the river of St. Francis, by which it is divided from Parnambuko, as on the south side it is separated by Rio Real from Bahia dos todos los Santos. Seregippe del Rey has, among others, a certain Fregasie called Porto Calvo, situated betwixt the ninth and tenth degree of southern latitude; being encompassed on the north-west side by the Fregasie of Serinhaim, and the small river of Pirafenunga, extending to the south as far as the river Parepuera, by which it is divided from the Fregasie of Alagoasi, containing in all about twelve leagues in length near the sea-shore, its bounds on the land side reaching to the unpassable woods.

In this Fregasie is a village, called by the Portuguese Villa de bon successo de Porto Calvo, but was formerly called Portocano Dos quattros Rios, it being situate at the confluence of the four rivers, Maleita, Tapamunde, Commentabunda and Monguaba. It is built upon a rising ground, about four leagues from the sea-shore, and by the Dutch strengthened with two forts; the biggest of which was called Bon Successo, being built all of stone, surrounded with a good counterſcarp, with a large baſon of fresh water within. The other fort was called by us the New Church, being created out of the ruins of an old church, called by the Portuguese Noſſa Senhora de Presentacao. Betwixt both these forts, a third was ordered to be erected by Count Maurice, upon the banks of the river, but it lying within the reach of muſket-shot from the mountains, was not brought to perfection.

The village has two ſtreets, the chief of which runs parallel with the river, from one fort to the other, and is called St. Joſeph's ſtreet; it contained no more than three houſes of one ſtory high, and about thirty-fix others covered with pantiles, being only built upon the ground. The Portuguese have, in lieu of their churches, which were demolished when the fortifications were erected, built themſelves another on the other ſide of the river, where they ſometimes hear maſs. The village is ſituate in a moſt pleaſant and wholeſome air, being cooled by the continual breezes from the ſea, which are not ſtopped by any hills betwixt them and the ſhore. In the night-time they enjoy the benefit of the land-wind, which drives the cool vapours ariſing from the neighbour-

ing rivers thither. Formerly there was a certain town called Seregippe del Rey, somewhat higher up the river, in a very barren place, of a considerable bigness, and well built, with three goodly churches, and a monastery belonging to the Franciscans, but without any fortifications. Above this town you see a chapel dedicated to St. Christopher, whither the Roman catholics come on pilgrimage.

This captainship was first of all reduced under the obedience of the Portuguese, or Spaniards, by Christovan de Barros; who for this his good service, had all the lands betwixt the small lake of Seregippe and St. Francisco granted to him, with full power to settle colonies there within a limited time. This drew many of the inhabitants to the Bay of All Saints thither, who, within a few years after, laid the foundation of this town; by erecting four sugar-mills, and building about a hundred houses, with four hundred stables for their cattle. But this town, with all the circumjacent houses, was, 1637, the 24th of December, laid desolate by our people, the inhabitants retiring to the Bay of All Saints. For the Spanish general Benjola being, 1637, posted with a body of two thousand men near that place, did, with ravaging and burning, considerable damage to our colonies, which obliged Count Maurice to dislodge him from thence; but being then sick of an ague, he committed this expedition to the charge of Colonel Schoppe; for which purpose, having gathered a body of two thousand three hundred men, besides four hundred Brazilians, and two hundred and fifty seamen out of the adjacent places, near the river of St. Francis, Alagoas, the cape of St. Austin, out of the Receif and Moribeka, and given him for his assistant Mr. John Van Giessele, a member of the great council, he commanded the Dutch admiral Lichthart to cruise with his fleet near the Bay of All Saints, thereby to draw the enemy out of his advantageous post to the sea-shore. The Spanish general had no sooner notice of our passing the river, but fearing to be inclosed betwixt us and the fleet, marched with his body to Torre Garcie de Avila, a place about fourteen leagues to the north of the city of St. Salvador.

The Dutch general Schoppe hearing of his removal, immediately attacked the place, which he laid desolate, and returned with incredible swiftness to the south side of the river of St. Francis.

Here he intrenched himself, with an intention to annoy the enemy, by cutting off his provisions, and driving away his cattle; which succeeded so well, that we killed above three thousand of their horned beasts, besides what was carried away on the other side of the river; so that what was left by the soldiers, was by the inhabitants carried to the Bay of All Saints; from whence it is evident, what vast numbers of cattle this country did produce at that time.

The great council took once a resolution to re-people that part of the country, and agreed, for this purpose, with Nunno Olferdi, counsellor of justice in the Receif, who found means to settle several families there: but the council of nineteen disapproving the matter, it was laid aside.

In the year 1641, Count Maurice reduced this place under the obedience of the West India company, erected a fort there, and surrounded the town Seregippe del Rey with a ditch. It lies upon a small river, betwixt St. Francisco and Real, which, however, at spring-tide, has fourteen foot water, or thereabouts. Within the jurisdiction of this captainship is the mountain of Tabayna; from whence several sorts of valuable ore were presented to the council of nineteen; but, upon proof, were found not worth farther looking after.

*The Captainship of Parnambuko.*

THE captainship of Parnambuko is one of the chiefest and biggest of the Dutch Brazil. It extends above sixty leagues along the coast, betwixt the river of St. Francis and the captainship of Tamarika. Parnambuko properly denotes the entrance of the harbour, which, by reason of the many rocks and shelves hidden under water, was called, by the Portuguese, Inferno Bokko, and Broken Parnambuko, or the Mouth of Hell. It is subdivided into eleven lesser districts, inhabited by the Portuguese, viz. the city of Olinda, Garazu, Receif, Moribeka, St. Anthony, Poyuka, Serinhaim, Gonfalvi d'Una, Porto Calvo, the Northern Alagoa, and the Southern Alagoa. Among which Olinda and Garazu were the chiefest.

The town, or rather the village, of Garazu, lies at some distance from the shore, over-against the island of Tamarika, upon a river of the same name, about five leagues from Olinda. It was formerly inhabited by Portuguese handicrafts-men, but, since our taking of Olinda, several rich families settled there: we became masters of the place 1633, in May.

Moribeka lies deeper in the country, more to the south, about five leagues off of the Receif.

St. Anthony is about seven or eight leagues distant from the Receif, to the south, near the cape of St. Austin.

The city of St. Michael de Poyuka lies about ten leagues to the south of the Receif, upon a river of the same name, which disembogues in the sea, on the south side of the cape of St. Austin. It was formerly a very populous place, and had thirteen sugar-mills.

The village Serinhaim, much about the same distance thence with the former, is a very pleasant place, has twelve sugar-mills, each of which produces six or seven thousand arobas, an aroba making about twenty-seven or twenty-eight pound weight.

The village of Gonfalvi d'Una lies twenty leagues from the Receif; it has five sugar-mills.

The village called Porto Calvo is twenty-five leagues distant from the Receif; it has seven or eight sugar-mills. Here is the castle of Porocano, which was not conquered by us, till under the government of Count Maurice.

The towns of the Northern and Southern Alagoas are forty leagues from the Receif.

Within the district of Parnambuko are two woods, called by the Portuguese the Greater and Lesser Palmairas, or Palmtree-woods.

The Lesser Palmairas, which is inhabited by six thousand negroes, lies about twenty leagues above the Alagoas, being inclosed with woods near the small lake of Guagohuhi, which exonerates itself into the great lake of Parayba, six leagues from thence to the north, about four leagues from the lake Meridai, to the south of the Northern Alagoa, being near that point of land commonly called Jaragoa. The village consists of three streets, each near half a league in length. Their huts are made of straw twisted together, one near another, their plantations being behind. They retain something of the religious worship of the Portuguese, but have their peculiar priests and judges. Their business is to rob the Portuguese of their slaves, who remain in slavery among them till they have redeemed themselves by stealing another: but such slaves as run over to them are as free as the rest. Their food is dates, beans, meal, barley, sugar-canes, tame-fowl (of which they have great plenty), and fish, which the lake furnishes them withal.

withal. They have twice a year a harvest of barley, which being over, they make merry for a whole week together. Before sowing time, they light great fires for fourteen days, which may be seen at a great distance. The shortest way from the Receif to this Palmairas is along the lake of the Northern Alagoa.

The greater Palmairas is betwixt twenty and thirty leagues distant behind the village of St. Amar, near the mountain of Behe, being surrounded with a double inclosure. About eight thousand negroes are said to inhabit the valleys near the mountains, besides many others, who dwell in lesser numbers of fifty or a hundred, in other places. Their houses lie straggling, they sow and reap among the woods, and have certain caves whither they retreat in case of necessity. They dress their victuals in the day-time, and at night tell over their whole number, to see whether any be wanting; if not, they conclude the evening with dancing and beating the drum, which may be heard at a great distance. Then they go to sleep till nine or ten o'clock the next day. During the dry season, they detach a certain number among them, to steal slaves from the Portuguese. The shortest cut to their habitations is from the Alagoas through St. Amar, and so cross the plains of Nhumahu and Kororipe, towards the backside of the mountain of Warrakaka, till you come to the lake Paraiba; along which you must pass, till you reach the mountain Behe, from whence you go directly into the valleys. Under the government of Count Maurice, the negroes of this Palmairas did considerable mischief, especially to the country-people about the Alagoas; to repress which, he sent three hundred firelocks, one hundred Mamelukes, and seven hundred Brazilians.

### *The Receif, Maurice's Town, and Anthony Vaez.*

The Receif is, by reason of its commodious and advantageous situation, the strongest place of all Brazil; besides that, it is strengthened and defended by several adjacent forts: but to give you the most commodious view both of the Receif, and the situation of Maurice's town, it is to be observed, that the whole coast of Brazil is, from one end to the other, surrounded with a long, thick, and flat ridge of rocks, which in some places is twenty, and in others thirty paces broad: however, there are certain passages in this ridge, through which the ships approach the shore, and some few places, where this ridge is not to be found at all. Thus a league on this side Rio Dolee, two leagues on the north side of the city of Olinda, there is nothing of this ridge to be found; but begins again near Poumarelle or Soxamardo, and extends to the isle of Itamarika. Betwixt the ridge and the continent you may pass in boats at high water; for at low tide most of those rocks appear above water; though the tide never fails to cover the same. The rock over-against the Receif of Parnambuko is between twenty and thirty paces broad, being not only at spring tides, but at all other tides overflowed by the sea; it is thereabouts very flat, without any prominences, and extends for a league from south to north. On the north point is an open passage for ships to approach the shore, lying five hundred paces farther to the north than the Receif itself. It is but narrow, and at spring-tide not above twenty-two feet deep.

Betwixt this rocky ridge and the continent there is a sandy ridge, or small island, extending to the south from Olinda, a league in length, and about two hundred paces broad. This is by our people commonly called The Sandy Receif, to distinguish it from The Stony Receif.

On the southern point of this little island, a league off Olinda, the Portuguese had built a village called Povoacano, which signifies peopling, or else Reciffo; it was very

populous for a considerable time, till the building of Maurice's Town, in the island of Anthony Vaez. For after Olinda was forsaken by its inhabitants, and destroyed by us, many of them, but especially the merchants, settled in this Reciffo, or the village of Povoacano, where they erected magnificent structures. At our first arrival we found no more than two hundred houses there, which were afterwards increased to above two thousand, some of which are very goodly edifices. We surrounded it with pallisades on the side of the river Biberibi, which at low water is fordable; and for its better security fortified it with three bulwarks, one towards Olinda, the other to the harbour, and the third towards the Salt-River; upon each of which was raised a good battery with three great cannon. This Receif is situate under  $8^{\circ} 20'$  southern latitude.

Some derive the word Reciffo from the Latin, *recipere* and *receptus* to receive, which after was turned into Reciffo, because the ships used to be received betwixt the Stony and Sandy Receifs, to load and unload their goods. Before the building of Maurice's Town, we kept here our factories, and all business both of peace and war was transacted in this place. In the time of the Portuguese, all the ships coming out of the sea did unload on the village of Povoacano, or the Receif, and the goods were from thence in boats and lighters conveyed up the river Biberibi, to the suburbs of Olinda.

Before the building of Maurice's Town, most of the traffic was in the Receif, where all the great merchants had their habitations, and from hence the sugar was transported into Holland. To prevent the frauds in the customs, it was surrounded with pallisades, and a goodly hospital was erected for the conveniency of the sick and wounded, and the education of orphans, under the tuition of four governors, and as many governesses.

Upon the uttermost point of the Stony Receif, on the left side, as you enter the harbour out of the sea, is a strong and large castle, built of free-stone, surrounded with a very high wall, upon which are mounted many heavy cannon, with suitable artillery and other provisions. When we took the place, we found nine brass, and twenty-two iron pieces of cannon within it; so that it seems both by art and nature impregnable; there being no coming near it on foot, at high water.

About five leagues higher, upon a branch of the great river, lies a small town of little consequence, called by our people The New City; and upon another branch of the same river, opposite to the former, a village called Atapuepe.

### *The Island of Anthony Vaez, and Maurice's Town.*

TO the south of the Receif, opposite to it, lies the isle of Anthony Vaez, so called by our people, from its ancient possessor. It is about half a league in circuit, being divided from the Receif by the Salt-River, or Biberibi.

On the east side of this island, Count Maurice laid the foundation of a city, which, after his own name, he called Maurice's Town or city; the ruins of the churches or monasteries of the city of Olinda furnished the materials for the building of it, which were from thence carried to the Receif, and so transported to this place.

On the west side it is environed with a morass; and on the east side washed by the sea, which passes the stony ridge. Besides which, it is on the land side strengthened with an earthen wall, four bulwarks and a large moat.

On that side where the fort of Ernestus was, the town lay open, and the houses took up a larger compass than those in the Receif; but after the revolt of the Portuguese, most of those houses were pulled down, and the place drawn into a more narrow compass,

pals, to render it more defensible: yet was the place well stocked with inhabitants, as well merchants as handicrafts-men.

Maurice's Town was on each side guarded by a fort. On the south side by the fort called Frederick-Henry, or the quinquangular fort, from its five bulwarks. This fort was, besides this, surrounded by a large ditch and pallisadoes, and strengthened by two horn-works, so that it commanded the whole plain, which at spring-tides used to be overflowed by the sea.

The second fort Ernestus, thus called after John Ernest, the brother of Count Maurice, was four-square, with four bulwarks, with a very large ditch; it commanded the river, the plains, and Maurice's Town. Near this last fort was the garden of Count Maurice, stored with all sorts of trees, brought thither from Europe and both the Indies.

Upon the north point of the Stony Receif just over against the Sandy Receif, lies the before-named fort, built all of stone, being about a hundred paces in circumference, provided with a good garrison and twenty pieces of great cannon, though in stormy weather the water flies over it on all sides. It commands the harbour, the land-fort, the Bruin Fort, and the Receif.

As the isle of Anthony Vaez was joined to the continent by a bridge, so it was thought necessary to join the Receif with another bridge to the said island, for the conveniency of carriage; the sugar-chests being before that time never to be transported to the Receif, except at low water, unless the owners would run the hazard of exposing them to the danger of the sea in small boats. Accordingly the great council, with consent of the governor Count Maurice, agreed with a certain architect for the building of a bridge with stone arches, for the sum of two hundred and fifty thousand florins. But after the architect had consumed a prodigious quantity of stone, and raised the structure near to the height of the banks of the river, finding that at low-water there was still eleven foot water, and despairing to be able to accomplish it, left it unfinished. But the council being unwilling to desist, renewed the work, which had already cost a hundred thousand florins; and by means of many trees of forty and fifty foot long, stopped the current till the bridge was brought to perfection, which was done in two months time, and a certain toll imposed upon all passengers, viz. for an inhabitant two-pence, for a soldier and negro one penny, for a horse four-pence, and a waggon drawn by oxen seven-pence.

The space betwixt the Sandy and Stony Receif is properly the harbour, which at high water has about thirteen or fourteen foot depth, where the ships ride very safe, being defended from the sea by the Stony Receif. The passage betwixt the Sandy Receif and the continent is called the Salt-River, to distinguish it from the river Kapivaribi, which carries sweet water.

The river Kapivaribi has derived its name from a certain kind of river or sea hogs, which used to be found there, and were by the Brazilians called Kapivaribi. This river arises some leagues to the west, passing by the Matta, or the Wood of Brazil, Mafyasti, St. Lorenzo, and Real, where, joining with the river Affogados, near another river of the same name, disembogues in the sea, near the Receif. The river Kapivaribi divides itself into two branches; one turns to the south, and passes by the fort William, and is called Affogados; the other running to the north, retains its former name, continuing its course betwixt the continent and Maurice's Town, or the isle of Anthony Vaez (into which you may pass over it by a bridge), and so to Waerdenburgh, where it joins with the river Biberibi, or Salt-River, both which are afterwards mixed with the sea. The two branches of this river surround the river Biberibi on the west side, and to the

east the isle of Anthony Vaez. Upon that branch of the river called Affogados, are abundance of sugar-mills, from whence the Portuguese used to convey their sugar-chests, either in boats by the way of the river, or in carts to Baretta, and from thence in flat-bottomed boats to the Receif and to Olinda.

A league to the south of Maurice's Town, upon the branch called Affogados, is a four-square fort of the same name, otherwise called Fort William; and from whence you may pass along a dike to the fort Frederick-Henry, or Maurice's Town. It was a noble structure, surrounded with high and strong walls, a large ditch and pallisadoes, with six brass cannon; it defended the avenues to the plains.

About half a league from thence, and at the same distance from the continent, lies another fort on the sea-shore, called Baretta; this commands the avenues both by sea and land to the cape of St. Austin and the Receif.

Upon that part of the island which lies betwixt the rivers Kapivaribi and Biberibi, and betwixt the forts of Ernestus and the triangular fort of Waerdenburg, were the before-mentioned gardens of Count Maurice, stored with all kinds of trees, fruits, flowers and greens, which either Europe, Africk, or both the Indies could afford. There were near seven hundred cocoa-trees of all sizes, some of which were thirty, forty, and fifty feet high; which being transplanted thither, out of the circumjacent countries, bore abundance of fruit the very first year; above fifty lemon-trees, and eighteen citron-trees, eighty pomegranate-trees, and sixty-six fig-trees, were also to be seen in these gardens.

In the midst of it stood the seat itself, called Vryburg, a noble structure indeed, which, as is reported, cost six hundred thousand florins; it had a most admirable prospect, both to the sea and land side, and its two towers were of such a height, that they might be seen six or seven leagues off at sea, and served the seamen for a beacon. In the front of the house was a battery of marble, rising by degrees from the river side, upon which were mounted ten pieces of cannon for the defence of the river. About two or three rods from the river, were several large basins in the garden, containing very sweet water, notwithstanding the river all round about afforded nothing but salt-water; besides this, there were divers fish-ponds, stocked with all sorts of fish.

At the very foot of the bridge which is built over the river Kapivaribi, from Maurice's Town to the continent, Count Maurice had built a very pleasant summer seat, called by the Portuguese, Baavista, i. e. a fair prospect. It was not only surrounded with very pleasant gardens and fish-ponds, but served likewise as a fort for the defence of the isle of Anthony Vaez and Maurice's Town.

Upon the Sandy Receif, opposite to the sea, or Water Fort, was a strong fort built of stone, called by the Portuguese, St. Toris, our people used to call it the Land Fort, to distinguish it from the before-mentioned Water Fort; it defends the entrance of the harbour with thirteen iron pieces of cannon.

About a musket-shot thence to the north, lies upon the same Sandy Receif, a small fort with four bastions, called the fort of Bruin; and about a musket-shot farther to the north, a redoubt, called Madame de Bruin; both these forts were built by the Dutch.

Near the continent, nor far from the salt-pits, betwixt the Sandy Receif and the isle of Anthony Vaez, was a triangular fort called Waerdenburg. It was at first a four-square, but afterwards turned by the Dutch into a triangular fort, the fourth bulwark being not defensible, by reason of the ground. These three bulwarks were afterwards changed into as many redoubts, and provided with some brass guns; at high tide it is surrounded on all sides with water.

*The City of Olinda.*

AT a small distance from the Receif, or Maurice's Town, to the north, is the ruined city of Olinda, once a famous place among the Portuguese; the whole product of Brazil being from thence transported by sea into Europe. The best part of the city was built upon divers hills; towards the sea on the south side, these hills were pretty plain, extending to the sea-shore, which has a very white sand all along that coast; towards the land side, or the north, those hills are more steep and craggy, full of thorn-bushes, intermixed with a few orange-trees. These hills are an additional strength to the place, which besides this, was guarded by several bastions to the land side, though by reason of the great variety of hills contained in its circuit, it was a difficult task to bring the fortifications into a regular form. There is a very fair prospect from the higher part of the town, both to the south and north, or to the sea and land side, by reason of the great quantity of circumjacent trees, which continue green all the year round. You may also from thence see the isle of Anthony Vaez, and Maurice's Town. The point of land near Olinda, is called Tipo by the inhabitants.

Upon the highest hill within the place, stood formerly a convent belonging to the Jesuits, being a magnificent structure, founded by Sebastian King of Portugal, who endowed it with considerable revenues. It had a very fair prospect, and might be seen at a good distance at sea. Not far from thence was another monastery belonging to the Capuchins; and near the sea-shore, another of the Dominican friars. Besides which, it had two churches, the one called St. Salvador, and the other St. Peter.

It contained above two thousand inhabitants, besides the clergymen and slaves, among whom were two hundred that were accounted very rich. On the foot of the mountain upon which the city of Olinda was built, a strong redoubt was erected, which in the year 1645 was by a serjeant betrayed to the Portuguese for a sum of money. About a league from the city, near the water-side, were the suburbs, well stored with inhabitants and packhouses, but destitute of fresh water, which they were fain to fetch from beyond the river.

The whole district of Parnambuco abounds in divers kinds of fruits and cattle. The valleys afford good pasturage, and the lower grounds near the rivers, great store of sugar reeds, which are much cultivated hereabouts. The mountains produce richer minerals here, than in the other captainships. During the rainy season the heat is more tolerable here in the day-time than the cold nights.

*The Cameleon, or Indian Salamander, otherwise called Gekko.*

THIS creature, which is not only found in Brazil, but also in the isle of Java, belonging to the East Indies, and which by our people is called Gekko, from its constant cry (like among us that of Cuckoe), is properly an Indian Salamander. It is about a foot long, its skin of a pale or sea-green colour, with red spots. The head is not unlike that of a tortoise, with a straight mouth. The eyes are very large, starting out of the head, with long and small eye-apples. The tail is distinguished by several white rings. Its teeth are so sharp as to make an impression even upon steel. Each of its four legs had five crooked claws armed on the end with nails. Its gait is very slow, but wherever it fastens it is not easily removed. It dwells commonly upon rotten trees,  
or

or among the ruins of old houses and churches; it oftentimes sett'es near the beds, which makes sometimes the moors pull down their huts.

Its constant cry is Gekko, but before it begins it makes a kind of hissing noise. The sting of this creature is so venomous, that the wound proves mortal, unless it be immediately burnt with a red-hot iron, or cut off. The blood is of a palish colour, resembling poison itself.

The Javaneſe uſe to dip their arrows in the blood of this creature; and thoſe who deal in poisons among them (an art much eſteemed in the iſland of Java, by both ſexes) hang it up with a ſtring tied to the tail on the ceiling, by which means it being exaſperated to the higheſt pitch, ſends forth a yellow liquor out of its mouth, which they gather in ſmall pots ſet underneath, and afterwards coagulate into a body in the ſun. This they continue for ſeveral months together, by giving daily food to the creature. It is unqueſtionably the ſtrongeſt poiſon in the world, its urine being of ſo corroſive a quality, that it not only raiſes bliſters wherever it touches the ſkin, but turns the fleſh black, and cauſes a gangrene. The inhabitants of the Eaſt Indies ſay, that the beſt remedy againſt this poiſon is the Curcumie root. Such a Gekko was got within the body of the wall of the church in the Receif, which obliged us to have a great hole made in the ſaid wall to diſlodge it from thence.

There are alſo ſeveral ſorts of ſerpents in Brazil, ſuch as rattle-ſerpents, double-headed ſerpents, and ſuch like; of which the Brazilians enumerate twenty-three, viz. Boigvacu, or Liboya, Arabo, Bioby, Boicinga, Boitrapo, Boykupekanga, Bapoba, Kukuruku, Kaninana, Kurukakutinga, Grinipajaguara, Ibiara, Jakapekoaja, Ibiboboca, Jararaka, Manima, Vona, Tarciboya, Kakaboya, Amorepinima.

We will give you an account of thoſe only that dwell in the houſes and woods of Pernambuko, paſſing by the reſt, as not ſo well known among us; and it is obſervable that though ſome of the American or Brazilian ſerpents exceed thoſe of Europe in bigneſs, they are nevertheless not ſo poiſonous.

The ſerpent of Boicinga, or Boicinininga, likewise called Boiquira by the Brazilians, is by the Portuguese called Kaskaveda and Tangedor, i. e. a rattle, and by our people a rattle-ſerpent, becauſe it makes a noiſe with its tail, not unlike a rattle. This ſerpent is found both upon the highway and in deſolate places; it moves with ſuch ſwiftness as if it had wings, and is extremely venomous. In the miſt it is about the thickneſs of a man's arm near the elbow, but grows thinner by degrees towards the head and tail. The belly and head is flattish, the laſt being of the length and breadth of a finger and a half, with very ſmall eyes. It has four peculiar teeth longer than all the reſt, white and ſharp like a thorn, which it hides ſometimes within the gums. The ſkin is covered with thick ſcales, thoſe upon the back being ſomewhat higher than the reſt, and of a pale yellowiſh colour, with black edges. The ſides of the body are likewise yellowiſh, with black ſcales on each ſide; but thoſe upon the belly are larger, four-ſquare, and of a yellow colour. It is three, four, and ſometimes five foot long; has a round tongue, ſplit in the middle, with long and ſharp teeth. The tail is compoſed of ſeveral looſe and bony joints, which make ſuch a noiſe that it may be heard at a diſtance; or rather at the end of the tail, is a long piece, conſiſting of ſeveral joints, joined within one another in a moſt peculiar manner, not unlike a chain. Every year there is an addition of one of theſe joints, ſo that you may know the exact age of the ſerpent by their number; nature ſeeming in this point to have favoured mankind, as a warning to avoid this poiſonous creature by this noiſe. One of theſe joints put in the fundament cauſes immediate death; but the ſting of this creature proceeds much ſlower in its operation, for in the beginning a bloody matter iſſues from

the wound, afterwards the flesh turns blue, and the ulcer corrodes the adjacent parts by degrees.

The most sovereign remedy used by the Brazilians against the poison of this and other serpents, is the head of the same serpent that has given the wound, which they bruise in a mortar, and in form of a plaister apply it to the affected part. They mix it commonly with fasting spittle, wherewith they also frequently moisten the wound. If they find the poison begins to seize the nobler parts, they use the Tiproka as a cordial, and afterwards give strong sudorifics. They also lay open the wound, and apply cupping-glasses, to draw the venom from thence; or else they burn it with a red-hot iron.

The serpent Kukuruku is of an ash colour, with yellow spots within and black speckles without, and has just such scales as the rattle-serpent.

The serpent Guaku, or Liboya, is unquestionless the biggest of all serpents; some being eighteen, twenty-four, nay thirty foot long, and of the thickness of a man in the middle. The Portuguese call it Kobre Dehado, or the roebuck serpent, because it will swallow a whole roebuck, or any other deer it meets with; and this is performed by sucking it through the throat, which is pretty narrow, but the belly vastly big. After they have swallowed such a deer, they fall asleep, and so are caught. Such a one I saw near Paraiba, which was thirty foot long, and as big as a barrel. Some negroes saw it accidentally swallow a roebuck, whereupon thirteen musqueteers were sent out, who shot it, and cut the roebuck out of its belly. It was of a greyish colour, though others are inclining more to the brown. It is not so venomous as the other serpents. The negroes and Portuguese, nay even some of the Dutch, eat the flesh; neither are its stings looked upon as very infectious, the wound healing often up without any application of remedies; so that it ought not to be reckoned among the number of poisonous serpents, no more than the Kaninana, Mavina, and Vicia. This serpent being a very devouring creature, greedy of prey, leaps from amongst the hedges and woods, and standing upright upon its tail, wrestles both with men and wild beasts; sometimes it leaps from the trees upon the traveller, whom it fastens upon, and beats the breath out of his body with its tail.

The serpent Jararaka is short, seldom exceeding the length of an arm to the elbow. It has certain protuberant veins on the head like the adder, and makes much such a noise. The skin is covered with red and black spots, the rest being of an earth colour. The stings of this creature are as dangerous, and attended with the same symptoms, as those of other serpents. Its body, the head, tail, and skin, being before taken away together with the entrails, boiled in the water of the root of Jurepeba, with salt, dill, and such like, is looked upon as a very good remedy.

The serpent Boitrapo, called by the Portuguese, Cobre de Cipo, is about seven foot in length, of the thickness of a man's arm, feeds upon frogs, and is of an olive colour. It is very venomous, and when it stings, occasions the same symptoms as the serpent Kukuruku; nay, the wound is accounted past curing, unless you apply the hot iron.

The adder Ibiara, by the Portuguese called Cobra Vega, or Cobra de das Cabecas, i. e. the double-headed serpent, because it appears to have two heads, which, however, is not so. They are found in great numbers, lurking in holes under ground. They feed upon pismires, are of the thickness of the length of a finger, and a foot and a half long, of a silver colour; nothing is more poisonous than the stings of these creatures, though not beyond all hopes of cure, provided the before-mentioned remedies be applied in time.

The serpent by the Brazilians called Ibiboboka, the Portuguese call Cobra de Corais. It is very beautiful, and of a snow-white colour, speckled with black and red spots, and about two foot long : its sting is mortal, but kills by degrees.

The serpent Biobi, called by the Portuguese Cabro Verde, or the green serpent, about three quarters of a yard long, and the thickness of a thumb ; of a shining green colour. It lives among houses, and hurts nobody, unless when provoked. Its sting is, however, full of poison, and scarce curable. A certain soldier being wounded by one of these creatures, which lay hidden in a hedge, in his thigh, did, for want of proper remedies, die in a few hours after : his body swelled, and turned pale blue.

The serpent Kaninana is yellow on the belly, and green on the back ; its length is about eight hands, and is looked upon as the least venomous of all. It feeds upon eggs and birds, and the negroes and Brazilians eat the body, after they have cut off the head and tail.

The serpent called by the Brazilians Ibirakoa, is of several colours, with white, black, and red spots. The sting of this creature is very poisonous, attended with the same symptoms as that of Kukuruku ; for it kills infallibly, unless proper remedies be applied immediately. If the poison has not seized the heart, they boil the flesh of the same serpent with certain roots, and give it the patient in wine.

The serpent Tarciboya and Kakaboya are amphibious creatures. The first is of a blackish colour, very large, and stings when provoked, but is not very difficult to be cured. The Kakaboya is of a yellowish colour, six hands long, and feeds upon tame fowl.

#### *Of the Senembi or the Leguan.*

NOT only in the captainship of Parnambuko, but also all over Brazil and America, as likewise in the isle of Java in the East Indies, are a certain kind of land crocodile, called by the Brazilians Senembi, by our people Leguan : some are larger than others, some being three, others four foot long, but seldom exceed five : they are all over covered with scales, which are somewhat bigger on the back, legs, and beginning of the tail, than on the other parts : the neck is about a finger and a half long, the eyes are black and bright, and the nostrils in the hindermost part of the head. Each jaw-bone is full of small, black, and short teeth ; the tongue is very thick : all along the back, from the neck to the tail, are small sharp teeth, of a greenish colour ; they are biggest on the neck, and grow smaller and smaller towards the tail : under the throat are likewise many of the same kind. The whole skin is of a delicate green, with black and white spots. It has four legs and feet, with five claws armed with very sharp nails : it can live two or three months without food. Its flesh is as white as that of a rabbit, and of as good a taste as that of fowls or rabbits, if it be boiled or well fried with butter. In the head of this creature are certain stones, which are an infallible remedy to break and drive the gravel out of the kidneys, given to the quantity of two drams at a time, or carried on some part of the body.

There are in Brazil lizards both great and small ; some are green, others greyish, and some four foot long, with sparkling eyes. The negroes feed upon some of them, whom they kill with blunt arrows ; they broil them, after they have skinned them, and eat them without the least harm. Among all those that are found among the thorns and briars, or the ruins of houses, there is but one kind venomous, which is called Bibora. They are like the others, but lesser, not exceeding the bigness

of a thumb; they are of an ash colour, inclining to white; the body and limbs thick, and swelled with the poison, but the tail short and broad. The wounds given by them are full of a thin stinking matter, with blue swellings, with a pain near the heart, and in the bowels.

There are also certain creatures, called Thousand Legs, as likewise Hundred Legs, by the natives called Ambua, who bend as they crawl along, and are accounted very poisonous. The first are commonly found in the houses, and the last among the woods, where they not only spoil the fruits of the earth, but also plague men and beasts.

Scorpions, by the Brazilians called Jaaciaira, are found here in great numbers, being in shape like the European scorpions, but not so pestiferous, and consequently the wounds given by them are easily cured. They lurk in houses, behind old stools, benches, and chests. They are exceeding big, no bigger being to be found in any other parts, some being five or six foot long, and of a considerable thickness.

There are such prodigious quantities of pismires in Brazil, that for this reason they are called by the Portuguese Rey de Brazil, i. e. King of Brazil. They eat all that lights in their way, as fruit, flesh, fish, and insects, without any harm. There is also a certain flying pismire, of a finger's length, with a triangular head, the body being separated into two parts, and fastened together by a small string. On the head are two small and long horns, their eyes being very small. On the foremost part of the body are six legs, three joints each, and four thin and transparent wings; to wit, two without, and two within; the hindmost part is of a bright brown colour, and round, which is eaten by the negroes. They dig into the ground like the moles, and consume the seed.

There is another kind of great pismires, resembling a great fly; the whole body of which is about the length of half a finger, and separated into three several parts. The last part resembling in shape and bigness a barley-corn; the middlemost of an oblong figure, with six legs, half a finger long, each of which has four joints: the foremost part, or the head, is pretty thick, in the shape of a heart, with two horns, and as many black crooked teeth: the white of the eyes is inclining to black, the whole composition of the head being the two eyes, placed opposite to one another, resembling the figure of a heart. The fore and hindmost parts are of a bright red colour.

There is another kind of pismire, of a bright black colour, with black and rough legs. It is about the length of a finger, with a large four-square head, starting black eyes and teeth, and two horns, half a finger longer. The body is also separated into three parts. The foremost of an oblong figure, not very thick, with six legs, each of the length of half a finger; the middlemost very small and square, not exceeding the bigness of a louse; the hindmost is the biggest of the three, of an oval figure, and sharp on the end. These three parts are fastened together with a single string, the Brazilians call it Tapijai.

There is besides this another pismire, called by the Brazilians Kupia, of a chestnut brown colour; its head being as big as another pismire, with black eyes, two horns, and two tusks instead of teeth. The whole body is covered with hair; it is divided into two parts; the foremost with six legs, being somewhat less than the hindmost; at certain seasons it gets four wings, the foremost being a little bigger than the hindmost, which it loses again at a certain time.

The Iron Pig of Brazil, called by the Brazilians Kuandu, and by the Portuguese Ourico Kachiero, is of the bigness of a large ape, its whole body being covered with sharp spikes of three or four fingers long, without any hair. Towards the body those  
spikes

Spikes are halfways yellowish, the remaining part is black, except the points, which are whitish and as sharp as an awl. When they are vexed, they are able, by a certain contraction of the skin, to throw or dart them with such violence, that they wound, nay, sometimes kill men or beasts. Their whole body, to measure from the hindermost part of the head to the beginning of the tail, is a foot long, and the tail a foot and five inches in length, which likewise has halfways sharp spikes, the rest being covered with bristles like other hogs. The eyes are round, starting and glistening like a carbuncle; about the mouth and nose is hair of four fingers length, resembling those of our cats or hares: the feet are like those of apes, but with four fingers only without a thumb, instead of which you see a place vacant, as if it had been cut away. The fore-legs are less than the hindermost, they are likewise armed with spikes, but not the feet.

This creature commonly sleeps in the day-time, and roves about by night: it breathes through the nostrils, is a great lover of fowl, and climbs up the trees, though very slowly. The flesh is of no ungrateful taste, but roasted and eaten by the inhabitants. It makes a noise jü, like the Luyaert.

That four-legged creature, by the Brazilians called Ai, by the Portuguese Priguiza, and by the Dutch Luyaert (lazy-back) from its lazy and slow pace, because in fifteen days time it scarce walks above a stone's throw. It is about the bigness of a middle-sized fox, its length being a little above a foot, to measure from the neck (which is scarce three fingers long) to the tail. The fore-legs are seven fingers long to the feet, but the hindermost about six; the head round, of three fingers in length; its mouth, which never is without a foam, is round and small, its teeth neither large nor sharp. The nose is black, high, and glib, and the eyes small, black and heavy. The body is covered all over with ash-coloured hair, about two fingers long; which are more inclining to the white towards the back. Round about the neck the hair is somewhat longer than the rest. It is a very lazy creature, unable to undergo any fatigues, by reason its legs are as it were disjointed in the middle; yet it keeps upon the trees, but moves, or rather creeps along very slowly. Its food is the leaves of the trees; it never drinks, and when it rains, hides itself. Wherever it fastens with its paws, it is not easily removed; it makes, though seldom, a noise like our cats.

The Pismire Eater, is thus called, because he feeds upon nothing but pismires; there are two sorts, the great and the small: the Brazilians call the first Tamanduai, and the last Tamanduai Guacu. It is a four-legged creature, of the bigness of a dog, with a round head, long snout, small mouth, and no teeth. The tongue is roundish, but sometimes twenty-five inches, nay, two foot and a half long. When it feeds, it stretches out its tongue upon the dunghills, till the pismires have settled upon it, and then swallows them. It has round ears, and a rough tail; is not nimble, but may be taken with the hand in the field. The small one, called Tamanduai Guacu, is of the bigness of a Brazilian fox, about a foot in length. On the fore-feet it has four crooked claws, two big ones in the midst, and the two lesser on the sides. The head is round, yet pointed at one end, a little bent below; with a little black mouth without teeth. The eyes are very small; the ears stand upright about a finger's length. Two broad black lists run along on both sides of the back; the hairs on the tail are longer than those on the back, the extremity of the tail is without hair, wherewith it fastens to the branches of the trees. The hairs all over the body are of a pale yellow, hard and bright. Its tongue is round, and about eight fingers long. It is a very savage creature, grasps every thing with its paws, and if you hit it with a stick, sits upright like a bear, and takes hold of it with its mouth. It sleeps all day long, with

its head and fore-feet under the neck, and roves about in the night time. As often as it drinks, the water spouts forth immediately through the nostrils.

They have also a kind of serpents of about two fathoms long, without legs, with a skin of various colours, and four teeth. The tongue is split in the middle, resembling two arrows, and the poison is hid in a bladder in its tail.

The four-legged creature, called by the Brazilians Tatu and Tatupera, by the Spaniards, Armadillo, by the Portuguese, Encuberto, and by the Dutch, Schilt Verken (shield-hog), because it is defended with scales like as with an armour, resembles in bigness and shape our hogs; there are several sorts of them. The uppermost part of the body, as well as the head and tail, is covered with bony shields, composed of very fine scales. It has on the back seven partitions, betwixt each of which appears a dark brown skin. The head is altogether like that of a hog, with a sharp nose, wherewith they grub under ground; small eyes, which lie deep in the head; a little, but sharp tongue; dark brown and short ears, without hair or scales: the colour of the whole body inclining to red; the tail in its beginning is about four fingers thick, but grows by degrees sharp and round to the end, like those of our pigs: but the belly, the breast, and legs are without any scales; but covered with a skin not unlike that of a goose, and whitish hair of a finger's length. It is generally very bulky and fat, living upon melons and roots, and does considerable mischief in the plantations. It loves to rout under ground, eats rabbits, and the dead carcases of birds, or any other carrion: it drinks much, lives for the most part upon the land, yet loves the water and marshy places. Its flesh is fit to be eaten. It is caught like the doe in Holland with the rabbits, by sending a small dog abroad, who by his barking, gives notice where it lurks under ground, and so by digging up the ground it is found and caught.

The bats in Brazil, called by the inhabitants Andirika, are of the bigness of our crows; they are very fierce, and bite most violently with their sharp teeth. They build their nests in hollow trees and holes.

The bird called by the Brazilians Ipekati Apoa, by the Portuguese Pata, is no more than a goose; and for that reason by the Dutch called a wild-geese. It is of the bigness of one of our geese of about nine months old, and in all other respects resembles them. The belly and under part of the tail, as likewise the neck, is covered with white feathers; but on the back to the neck, on the wings and head, the feathers are black intermixed with some green. There are also some black feathers intermixed with the white ones on the neck and belly. They differ from our geese in this, that they are somewhat bigger; their bills resemble rather those of our ducks, but are black, and turned at the end, and on the top of it grows a broad, round, and black piece of flesh, with white speckles. They are commonly found near the river side, are very fleshy and well-tasted.

The bird by the Brazilians called Toukan, or large bill, is about the bigness of a wood-pigeon. It has a crop about the breast of three or four fingers in compass, of a saffron colour, with high red-coloured feathers round the edges, which are yellow on the breast, but black on the back and all the other parts of the body. Its bill is very large, of the length of a palm of a hand, yellow without and red within. It is almost incredible how so small a bird is able to manage so large a bill, but that it is very thin and light.

The bird called by the Brazilians Kokoi, is a kind of a crane, very pleasing to the sight, as big as our storks. Their bills are straight and sharp, about six fingers in length, of a yellowish colour inclining to green. The neck is fifteen fingers long, the body ten, the tail five: their legs are half-ways covered with feathers, about eight fingers

fingers in length, the remaining part being six and an half. The neck and throat is white, both sides of the head black, mixt with ash-colour. On the far and undermost part of the neck are most delicious, white, long, and thin feathers, fit for plumes: the wings and tail are of an ash-colour, yet mixt with some white feathers. All along the back you see long and light feathers, like those on the necks, but are of an ash-colour: their flesh is very good, and of a grateful taste. There is another kind of these birds, which is somewhat bigger than a tame duck. Its bill is straight, and sharp at the end, of the length of four fingers and a half, with a double set of teeth both above and below: the head and neck (which is two foot long) resembles the crane, with black eyes inclosed in a gold-coloured circle. The body is two foot and a half in length; the tail, which stands even with the extremity of the wings, four fingers. The bill is of an ash-colour towards the head, the rest yellow, inclining to green. The head and upper part of the neck are covered with long pale yellowish feathers, intermixt with black. On the back and wings it has ash-coloured feathers inclining to yellow: but the legs and feet are dark grey: the flesh of this bird is eatable, and tastes like that of a crane.

The bird, called by the Brazilians *Jabiru-Guaku*, and by the Dutch, *Schuur Vogel* (or barn-bird), has no tongue, but a very large bill, near seven foot and a half long; round and crooked towards the end, of a grey colour. On the top of the head is a crown of white and green feathers. The eyes are black, behind each of which are two great concavities instead of ears. The neck is ten fingers in length, one half part of which, as well as the head, is not covered with feathers, but with an ash-coloured, whitish, rugged skin. This bird is of the bigness of a stork, with a short black tail, which stands even with the extremities of the wings. The other part of the neck, and the whole body, is covered with white feathers, and those on the neck very long ones: the wings are likewise white, but mixed with some red. The flesh, if boiled, after the skin is taken off, is good food, being very white, but somewhat dry.

Brazil produces incredible quantities of other wild fowl of all sorts, both great and small, some of which live among the woods, others in the water, but are very good food.

Of the best kind are the thrushes, called by them *Bamodi*; pheasants of divers kinds, called by the barbarians *Magnagu*, *Jaku*, and *Arakua*.

*Mouton* is a bird of the bigness of a peacock, but has black feathers; the flesh is very good and tender. Because this country is full of fruit-trees and woody places, it produces abundance of sparrow-hawks, and other hawks, called by the Portuguese *Guavilon*, and by the Brazilians *Teguata* and *Inage*, which are always at enmity with the chickens and pigeons.

Among those that live both in the water and upon the land, the wild ducks claim the precedency; some of those are smaller than the European ducks, others much exceed them, being as big as a goose. They have also a sort of snipes, called *Jakana-miri* and *Jakana-guaku*. Besides these there are cranes, quails, and ostriges, and many others of that kind; the flesh of which is eatable, but not very toothsome.

The rest of these birds are very greedy after the amber-gris, which is thrown ashore by the boisterous sea, which they devour before the inhabitants can come thither to gather it. They have also abundance of Parakets, or small parrots; these never speak; but their parrots are extraordinary fine and large, some of which learn to speak as distinctly as a man. I have seen some of these parrots express every thing what they heard cried in the streets very plainly; and among the rest I saw one, which if put in a basket upon the floor, would make a dog that belonged to the same house sit up before the

basket, crying out to him, Sit up, sit up, you nasty toad. Neither did this parrot leave off calling and crying, till the dog came to sit up before the basket. It was afterwards presented to the Queen of Sweden.

There is among the rest a certain small bird, no bigger than a joint of a finger, which, notwithstanding this, makes a great noise, and is caught with the hands whilst it is sitting among the flowers, from whence it draws its nourishment. As often as you turn this bird, the feathers represent a different colour, which makes the Brazilian women fasten them with golden wires to their ears, as we do our ear-rings. The birds here are never destitute of food, which they always meet with either among the flowers or fruits of the trees, which are never spoiled here during the winter season.

The rivers and lakes of Brazil, as well as the neighbouring sea, furnishes them with great store of all sorts of fish, which are accounted so wholesome here, that they are even allowed for those that are troubled with agues. The standing waters near the sea-side, which sometimes are quite dried up, produce abundance of craw-fish, tortoises, shrimps, crabs, oysters, and divers others of this kind, which are all very good food.

There are abundance of fish in Brazil common to the sea and rivers, especially during the rainy season; when a great quantity of the river-water being conveyed into the sea, the sweetness of the water allures the fish into the rivers, where, meeting with abundance of green weeds (the product of the bottom of the rivers), they never return to the sea.

Among the river fish, the chiefest are, the Duja, Prajuba, and Akara-Puku; the last of which resembles the best and largest of our perches.

Brazil produces also various kinds of insects, some of which are of four fingers' length, and an inch thick. They have likewise silk-worms, called by the Brazilians Ifokukus, and their silk, Ifokurenimbo. There are also divers sorts of fire-flies, which are likewise found in the East Indies, where we shall give you a farther account of them. Besides these, there are many sorts of other flies, hornets, wasps, and bees; some of which produce honey, some none at all.

Among other kinds of spiders there is one of a prodigious bigness, which is always found either in dunghills, or in the concavities of hollow trees: they call it Nhanduguaka. These creatures weave cobwebs like other spiders; the skin is rough and black, provided with sharp and long teeth. This creature, if provoked, wounds with its poisonous sting, which is so small as scarce to be visible, and raises a blueish tumour, which is very painful, and, if care be not taken in time, occasions an inflammation, attended with such dangerous symptoms, as prove afterwards incurable.

Near Rio St. Francisco are vast numbers of a certain small insect not unlike our crickets; I have been very curious to get sight of this creature, to satisfy myself as to its shape and resemblance to others of this kind; but though it makes a very shrill noise, which resembles that of our crickets, I was never able to see any of them; for as soon as you approach they desist, so that you are at a loss which way to look. They sing sometimes for a quarter of an hour without intermission. In the island of Java, in the East Indies, it is commonly heard in the months of February and June. At last I had the good fortune to get one of these creatures into my hands, by means of a certain Chinese woman, after I had often been in search of it, both within and without the city of Batavia. The Javanese set two of these little creatures a fighting together, and lay money on both sides, as we do at a cock-match.

There are also abundance of ravenous wild beasts in Brazil, such as tigers, leopards, &c. The tigers are extremely savage here; they fall upon beasts, and sometimes upon

men, of whom several were killed by them in my time. A certain Portuguese had a sugar-mill very pleasantly situated near a wood, whither we used to go to divert ourselves sometimes. The Portuguese sitting one time with four more of his friends in the house, with the windows drawn up for the conveniency of the land air, a dog belonging to the house, who had ventured too far into the adjacent-wood, was pursued by a tiger, so that to save his life he leapt into the window to seek for shelter near his master; but the tiger closely pursuing him, leapt also through the window into the room, where the door being shut, he tore two of those there present in pieces before the rest could make their escape, and afterwards went his way.

There is another sort of savage beast in those parts, called by some of our people, Jan-over-Zee (or jack beyond sea), which surpasses all others in nimbleness, and tears all to pieces it meets with.

Brazil has also great plenty of cattle, but the flesh will not keep above twenty-four hours after it is dressed. The Dutch cut off the fat, and cut the lean in thin slices, and dry it in the sun like fish. No butter is to be made here, because the milk turns to curds immediately; the Dutch butter is drawn out of a vessel like oil.

Their hogs are small and black, but very well tasted, and wholesome; there is another kind of amphibious hogs, by the Portuguese called Kapiverres; they are very near as black as the others, and good food.

There is another four-legged creature in Brazil, called by the inhabitants Taperete, and by the Portuguese, Antes; its flesh has the taste of beef, but somewhat finer. It is about the bigness of a calf, but shaped like a hog; it sleeps all day among the woods, and seeks for belly-timber in the night: its food is grass, sugar-reeds, cabbages, and such like. They have likewise good store of goats, called by them Pakas and Kotias, and hares and rabbits, which do not give way in goodness to those of Europe. There is also an excellent kind of lizards, called by the inhabitants Vuana and Teju, which are accounted a dainty bit.

The fish in Brazil are no less considerable for the supply of our plantations, than the cattle, which are on the coasts of Brazil, but especially in Pernambuko, where they are found in such plenty, that at one draught they catch sometimes two or three thousand fine fish in the four or five summer months, for during the rainy-season they catch but few. There are certain districts along the sea-coast whither the fish most resort; some of those belong to the inhabitants, the rest to the company, and are farmed at a certain rate per annum. The lakes, as well as the bays, are stored with an incredible multitude of fish; the first are, by the Portuguese, called Alagoas; and the best they produce are the Sindia, Queba, and Noja, all without scales. And though the fish which are caught in the lakes are not so much esteemed as the river-fish, nevertheless are they not much behind them in goodness, because these lakes are not always standing-waters, but intermixed with several rivers. Some of these fish they dry in the sun. The chiefest of this kind are those called by the Brazilians Kurima Parati, and by the Dutch inhabitants, Herders. They abound no less in sea-fish of all sorts. The fish, called by the Brazilians Karapantangele, which is not unlike our perch, has the preference among them. And as the rivers furnish infinite numbers of fish, so they are generally fatter and better tasted than the sea-fish. Those which are caught in those fisheries near the sea-shore, are, for the most part, salted, and carried from thence into the country, for the use of the sugar-mills, which cause great plenty among them.

The craw-fish, which are in great quantities near the rivers, and in the marshy grounds, serve likewise for food to the Brazilians and negroes, and some of our people like them tolerably well.

It is further to be observed, that whereas a considerable number of cattle, during the war, was run astray out of the parks into the forests and woods beyond the river of St. Francis, it was thought convenient by the great council of the company here, to agree with certain persons to catch this cattle, and bring it to the Receif, in order to be killed for the use of the inhabitants. The time of the said contract being expired, it was consulted, whether the same should be renewed; but it being apparent that there were not enough left to quit cost, the same was laid aside, and this resolution sent to the council of Nineteen. For in the mean-while the inhabitants near Rio St. Francisco and Rio Grande, having applied themselves with great industry to the breeding of cattle, their parks were so well stocked by this time, that they not only furnished the inhabitants of the Receif, but also the sugar-mills, with plenty of meat, which was bought at the rate of three and four-pence per pound in the country; besides that, they provided the garrisons with the same for a twelve-month, after the store-houses of the Receif were emptied; and notwithstanding this, the inhabitants of those parts were not out of debt, when those of Pernambuko and Parayba were involved over head and ears, which shews what advantage they reaped from the breeding of cattle; and that if the Dutch Brazil had continued in peace, those parks might have furnished all the garrisons with meat, without impairing their stock for breeding; which, together with the great plenty of fish, are the two main pillars of the state of Brazil.

Notwithstanding all which, it is certain that the inhabitants of the Dutch Brazil cannot be provided with sufficient maintenance, without a yearly supply from Europe, as well of eatables as other commodities, as has been found by experience, to the great detriment of the company; after our store-houses were exhausted by the several expeditions against Angola, Meranhaon, and other places.

In the rivers and lakes here are also found crocodiles, by the Brazilians called Jakare, and in the East Indies, Kaymans. They are like the African crocodiles, but not quite so big, seldom exceeding five foot in length. They lay twenty or thirty eggs bigger than geese eggs, which are eaten by the Brazilians, Portuguese and Dutch, as well as the flesh.

In the seas near the coast of Brazil, they meet also sometimes with great lampreys. Before the bridge from the Receif to Maurice-Town was built, one of this kind of a considerable bigness did lurk near that passage, where the boats used to pass over from one side to the other, and snatched all that fell in this way, (both men and dogs that swam sometimes after the boat,) into the water: but at a certain time, by the sudden falling of the tide, being got aground with the foremost part of the body, he was with much ado brought ashore.

The district of Pernambuko does also abound in various sorts of fruits, as well as all the other parts of Brazil, of which we shall say more hereafter.

Upon the captainship of Pernambuko, borders to the north the captainship of Tamarika, which owes its name to an island of the same name, being the chiefest part of this district, which however extends near thirty-five leagues along the sea-coast on the continent.

The island of Tamarika lies two leagues to the north of Pomerello, in the sea; being parted from the continent by the river Tamarika, its most southern point lying under  $7^{\circ} 58'$  south latitude. It is from south to north about two leagues long, and its circuit near seven. To the jurisdiction of this isle did also belong Goyana, Capavaribi, Terukupa, and Abray on the continent. Formerly it had but few inhabitants, and scarce any houses, though it is a very pleasant isle, and tolerably fertile, producing brazil-wood, cocoa-nuts, cotton, sugar-reeds, melons, and such like; besides wood for firing, and  
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fresh water for the conveniency of the Receif: it abounds likewise in wood both for building of houses and shipping. This island was much infested with wild beasts, which did great mischief to the sugar-reeds: this moved Peter Pas, director of the captainship of Itamarika, to make his application to Count Maurice and the great council in 1647, to know their pleasure, whether they should dispose of those beasts by contract, to such as would be at the charge of catching of them, or whether they should be taken and killed for the use of the garrisons; but this was rejected by the council, who enjoined the inhabitants not to kill those beasts in the open fields, unless they should break into their plantations, it being for the interest of the company to preserve them in case of a necessity: the damage which from thence might accrue to the sugar reeds, being to be prevented by furrounding their plantations with pales and stakes.

The island is looked upon as of the greatest consequence to us, it having been proposed by some to transfer the seat of the Dutch-Brazil from the Receif thither; but the directors of the company did not agree to it, considering that at that time this island was quite desolate; whereas upon the Receif, were store-houses, magazines, ware-houses, and such like buildings ready to their hands, besides that the place was much more pleasant, fertile and stronger; and the harbour much more convenient for ships: the river Tamarika on the other hand being not navigable, but for small vessels, by reason of the shallowness of the harbour, which was noted for shipwrecks. The defect of fresh water in the Receif, in which this isle abounds, may be supplied from the river Biberibi; besides that, they had several basons with fresh water within the Receif, for their present use. During the war with the Portuguese we were sensible of the conveniences we received from this island, by reason of its strength both by art and nature, which might serve as a safe retreat upon all emergencies; besides, that its preservation was absolutely necessary for the Receif, which was supplied from thence with fish, and several other sorts of provisions.

Upon the banks of the river at the south entrance of the harbour, we had built a quadrangular fort called Orange. It was provided with a goodly wall, but the ditch was not very deep, and for the most part without water, for which reason it was strengthened with pallisadoes. On the north-side we had a hornwork, but much decayed; within the body of the fort was a powder-vault, and other conveniences for the bedding of soldiers. Several batteries were raised upon the walls, mounted upon six brads and as many iron great guns. In the island near the entrance of the river, close by a morass full of thorn-bushes, was a small town, most inhabited by soldiers, called by the Portuguese *Nostra Senhora de la Conceptiano*. Upon a hanging-rock, just by, was an old redoubt erected by the Portuguese, called by the same name, which, together with the whole island, was taken by the Dutch, under the command of Colonel Schoppe from the Portuguese, and the place, after his name, called Schoppe's Town. This fort was afterwards by the Dutch closed up on the backside towards the church, so that it afterwards served both for the defence of the town and the harbour, as the Block-house on the north-side covered the gates. There were then eleven pieces of cannon mounted upon it. At the north entrance of the harbour, was another redoubt, which defended that passage on that side, with three iron cannon. One Mr. Dortmont, governor of Itamarika, found under the before-mentioned rock in 1645, as he was digging a well, a spring of fresh water, which proved very useful for the garrison, because it could not be cut off by the enemy.

Somewhat higher up the river Tamarika, lies an island called Magioppe, where are found abundance of Mandihoka roots. You may go quite round this island in barks; it having a kind of a harbour on both ends, viz. to the south and north, but the first is the

the best ; because there rises from the northern shore of the continent, a shelf, which reaches very close to the island, the channel betwixt both not having above ten or twelve foot water. The only harbour fit for use thereabouts is the south entrance of the river, which makes Tamarika an island, where ships that drew fourteen or fifteen foot water, may pass through ; there is no convenient anchorage. That end, where the river returns into the sea, is by the Dutch called the northern entrance, and by the Portuguese, Katuamma.

Betwixt Pomerello and the river Tamarika, a river comes from the continent, fit for barges, called Marafarinha ; and half a league within the mouth of the river Tamarika, another falls likewise from the continent, called Garassou, but is of little moment. From thence to the north, are several other rivers near the sea-shore, which are navigable with barges, for the conveniency of the sugar-mills, of which there are several thereabouts.

A league and a half further to the north of the north entrance of Tamarika, is a noted point of land called by the Portuguese Punto Pedra, surrounded with a Receif, betwixt which you may pass with barges and yachts.

A league further to the north from this point, and three leagues to the north-west of Tamarika, is the small river Goyana, under  $7^{\circ} 46'$ , which disembogues in two branches in the bay ; at the entrance lies a great rock, where is great store of sea-fowl. Before it lies a great Receif, but within it are so many shelves that renders the passage very dangerous.

About two leagues and a half beyond the river Goyana, to the north, is a great river, called Auyay, but the entrance is so choaked up with sands, that there is scarce any passage for barges. This river sends forth several branches into the country, upon one of which to the north, lies the village of Maurice, and upon the southern branch the village Auyay.

Among others, Porto Francisco lies in a creek three long leagues to the north of the river Auyay ; and five leagues to the north-west of the same river, an unnavigable river called Grammana, besides several other rivulets.

About a league and a half to the north-west of the river Grammana, is the Cabo Blanco, or White Cape ; and three leagues from thence to the north-west, the cape of Parayba, being a long point of land, with a large adjacent bay. The whole coast from Pomerello to the cape of Parayba, is covered with receifs or rocks, which, lying for the most part about half a league from the shore, and the water between them being generally very smooth, affords an easy passage to barges, even in tempestuous weather ; when it is almost impossible for ships to pass without the rocks, by reason of the violence of the current from the northern and the southern winds, which blow there continually.

Three leagues within the mouth of the river Goyana is a town of the same name, where is kept the court of judicature of this captainship. There are five or six sugar-mills thereabouts, situated upon the banks of the river, for the more commodious transportation of sugar in barges to Pernambuko. This country produces likewise brazil-wood, ginger, cotton, and Indian nuts ; the people called Petiguaves inhabit here, though this whole tract of land, as far as Cabo Blanco, is not very populous, having only a few villages, inhabited by the Brazilians.

The isle of Tamarika has several landing-places on the river side, the chiefest are ; Os Markos and Pedreiros, where the river is narrowest ; Tapasima and Kamboã of Domingos Rebeyro ; the great Makqueira and Kamboã of Conrad Pauli ; in which places the enemy landed in that island ; the pass near the north entrance of Topowa, and the island Taposoka, where with one single ship you may defend the passage from  
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the rivers Tujukapape and Mafferandaku, as likewise from the sea. For the rest, the shore all along the river being very marshy and full of Manga trees, is of a very difficult access. The shore towards the sea-side is very flat, but woody, which, together with the sands that are at some distance in the sea, makes the approach of ships very dangerous on that side. Formerly the court of judicature of the captainship was kept in this island but was afterwards transferred from thence, as we told you before, to the town of Goyana and Kapivaribi on the continent, because these places were both more populous, and more sugar-mills were built thereabouts, the ground being much better here than in the island. In my time there were five judges belonging to this court, three of which lived at Goyana, and the other two in the isle of Itamarika. However, this court was afterwards likewise removed from Goyana. In the year 1641, Mr. Peter Pas was director of the captainship of Itamarika for the West India company, and Captain Sluiter commander-in-chief over the foldiers.

This captainship has derived its name from the capital city, which has borrowed hers of the river Parayba, upon which it is situate. It is one of the most northerly captainships, about five leagues distant from the sea. It was formerly in the possession of the French, who were in 1585 chased from thence and several other harbours, by the Portuguese general Martin Leytan.

Five leagues upwards the river Parayba, is a city founded by the Portuguese, and after Philip King of Spain, called Filippen, and Nossa Senhora de Nives, otherwise Parayba, from the river Parayba; which name was by the Dutch, after they had in November 1633 conquered the whole captainship, changed into that of Frederick's Town, after Frederick Henry Prince of Orange. This city has been but lately built by the Portuguese, and had several stately houses with marble pillars, the rest being only of stone. Here is kept the court of judicature of this captainship. Before the time of the rebellion of the Portuguese, this place was inhabited as well by the Portuguese as Dutch, being much frequented by the inhabitants of the circumjacent country, who used to exchange their sugar for what other commodities they stood in need of, which was afterwards from thence transported to other places.

Within the mouth of the river Parayba, were three very considerable forts. One on the south point, by the Portuguese called Catharine, but by Count Maurice afterwards named Margaret after his sister. It was defended with five goodly bastions, and a hornwork without.

The fort called St. Antonio by the Portuguese, was built upon a small island, which by a narrow branch was separated from the north point. This is only the remainder of a large four-square fort, formerly erected by the Portuguese, which was afterwards rased by the Dutch, part of it having been washed away by the river. It is surrounded with pallisadoes and a good ditch, supplied with water from the before-named branch of the river; the walls are very strong, and upon a battery are mounted six iron pieces of cannon. It may be defended by the cannon both from the city of Parayba, and from the fort Margaret, lying just opposite to it on the south-side, which is the reason it was always but carelessly guarded by the Portuguese.

The third fort lies upon a triangular island, called Restinga, not far from thence, more upwards the river. It was strengthened with pallisadoes, and upon the batteries were mounted five brads, and as many iron pieces of cannon.

The captainship of Parayba is watered and divided by two considerable rivers, viz. the Parayba and Mongoapa, otherwise called St. Domingo. The great river of Parayba lies under the sixth degree twenty-four minutes, four leagues to north of Cabo Blanco, and discharges itself in two branches into the sea, being separated by a large sand-bank.

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One is called the northern, and the other the southern entrance. From the last extends a rocky ridge as far as Cabo Blanco, and within the river lies a sand-bank quite cross to the fort Margaret. This river is very shallow during the summer time, but in the winter season the waters rise to that height that they overflow all the adjacent country, sometimes to the great loss of men and cattle.

Two leagues beyond this river to the north, is a bay which affords a very safe station to the largest ships. It is by the Portuguese called Porto Lucena, and by the Dutch the Red Land, the grounds being red hereabout. There is very good anchorage here at five and six fathom water, and the country near it affords very good fresh water, which is the reason why the Dutch ships bound for Holland from the Receif, used to stay for one another's coming in this bay, and to provide themselves with fresh water.

Half a league farther to the north, under  $6^{\circ} 34'$ , the river Mongoapa, or Mongoanawapy, exonerates itself into the sea. This river is much larger towards its source than at the mouth, the banks on both sides being full of briars, bushes, and Mangatrees. Before its entrance lies a receif, and at the very mouth two dangerous sand-banks; it has three fathom water at low tide.

About two small leagues to the north of the river Mongoapa, is a bay called by the Portuguese Bahia de Treycano, or Treason, where at about a league distant from the shore, is eleven or twelve fathom water. Five leagues to the north of this bay, you meet with the river Barra Conguon or Konayo, which is scarce passable for yachts. About a league and a half from thence is a large bay of about two leagues in length, called Pernambuko; and five leagues beyond it to the north, the river Jan de Sta, or Estau.

The natives of Parayba inhabit about seven villages, the chiefest of which is called Pinda Una, which in 1634 contained about fifteen hundred inhabitants, whereas each of the others had scarce three hundred; each of these comprehending not above five or six very long buildings, with a great many doors, but very small ones.

The chief commodities of this captainship are sugar, brazil-wood, tobacco, hides, cotton, and such like. The sugar-reeds did bear extremely well, because they were transplanted into fresh grounds. Whilst the district of Parayba was under our jurisdiction, there were above one and twenty sugar-mills on both sides of the banks of the river, eighteen of which sent away every year four thousand chests of sugar. Near the river-side, the country is low and plain, but not far from thence rises by degrees, and affords a very agreeable variety of hills and valleys. The flat country, which is also the most fertile, is distinguished into several divisions, some of which have borrowed their names from small rivers which run through them; as for instance, Gramamma, Tapoa, Tibery, Ingeby, Monguappe, Increry, Kamaratuba, and several more. All those countries are extremely fertile, occasioned by the overflowing of the river Parayba. Their products are sugar, barley, turkey-wheat, potatoes, ananas, coconuts, melons, oranges, citrons, bananas, pakovas, markomas, cucumbers, and all other necessaries for the sustenance of men and beasts. They have here a kind of wild pears, called kajous, which are very juicy and well tasted; within is a certain bean or small nut, the rind of which is bitter, but the kernel sweet if roasted in the ashes. The pear is very cooling, but the nut has a contrary quality.

Towards the end of November 1634, the Dutch undertook the expedition against Parayba, their forces being embarked in thirty-two ships under the command of Colonels Schoppe, Artisjoski, Hinderson, Stachouwer, and Carpentier. The whole fleet was divided into two squadrons, the first consisted of one and twenty ships, in which

were nineteen hundred and forty-five men, the other of eleven yachts, with four hundred and nine men. Schoppe was the first that landed six hundred men, and advanced towards the enemy, who betook themselves to their heels, leaving their arms and clothes behind them; Anthony Albuquerque their general himself scarce escaping their hands. In the mean-while, the rest being likewise got ashore, three companies, under the conduct of Gasper Ley, marched directly to the fort of Margaret, and intrenched himself near the fort, -whilst Schoppe kept all along the shore, and Artisjoski posted himself on the right-side, in sight of the garrison. At the same time Mr. Lichthart attacked the fort in the small island Restinga, which he took by force, and put the garrison to the sword. By this time Schoppe had raised a battery against the fort, from whence he so sorely galled the besieged, that their commander Simon d'Albuquerque surrendered the place. Hereupon the fort of St. Antonio was summoned to surrender; Maglianes the governor desired three days delay, which being denied, he marched away secretly by night, leaving the place to Lichthart, who found there five great brass pieces, and nineteen iron pieces of cannon.

The same night our forces marched towards the city of Parayba, being sixteen hundred strong, and having passed a small branch of the river called Tambrá Grande, made themselves masters of it without any opposition: the Spanish general Banjola, who commanded there with two hundred and fifty men only, having left the place before, and being retired to Goyana, after he had either sunk or nailed up the cannon, and set fire to three ships and two warehouses, in which were consumed three thousand chests with sugar. The fort of St. Catharine being much decayed, was ordered by Count Maurice to be repaired, and the ditch to be enlarged and deepened; giving it the name of Margaret, after his sister. The fort of St. Antonio was raised for the greatest part, there being only one bulwark left for the defence of the north point of the river. The fort Restinga was ordered to be surrounded with new pallisadoes, and the convent of Parayba fortified with a wall and outwork; and the command thereof given to Elias Harkman, together with the government of the whole captainship.

The captainship of Potigi, or Potingi or Poteingi, is otherwise, by the Portuguese, called Rio Grande, from a river of the same name: the Dutch call it North Brazil, in respect of the more southern captainships of Brazil. It borders to the south upon Parayba, and to the north upon the captainship of Siara; though the Portuguese geographers extended its bounds as far as the island Maranhão.

The French were once masters of this captainship; till 1597, they were chased from thence by the Spanish commander, Feliciano Creça de Karvalasho. It has four divisions, named after so many rivers, that run through them; viz. Kunhao, Goyana, Mompobu and Potegy. And though this district has been much neglected by the Portuguese, yet does it produce plenty of wild-fowl and fish, which are so luscious, that they commonly eat them only with lemon-juice or vinegar, without oil. There is an incredible number of fish in the lake Goraires; besides which, abundance of farinha is planted here. This part of the country stood us in good stead during the late rebellion of the Portuguese, our garrisons in Parayba, and other places, being supplied from thence with good store of flesh and fish.

Above the river Rio Grande is a town, of no great moment, called Amsterdam; the inhabitants live by planting farinha and tobacco, and fishing. Higher up in the country live some Moradores or husbandmen, who cultivate the grounds; but on the north side of Rio Grande are but few inhabitants.

The river Rio Grande, i. e. the Great River, is so called by the Portuguese from its bigness, but by the Brazilians, Potigi or Poteingi. The mouth of this river lies under

under  $50^{\circ} 42'$  southern latitude, three leagues from Punto Negro, coming from the west side of the continent. It disembogues four leagues about the fort Keulen, called by the Portuguese Tres Reyos: it bears ships of great burthen; but the river Kunhao in the same captainship is only navigable with barges and yachts. The bays of this captainship are, Bahia Formosa, Punto Negro, Ponto de Pipas, and the bay of Martin Tijsen. The bay of Ginapabo lies beyond Rio Grande to the north; and beyond that a river called Guasiavi, upon which, near the mouth, lies the village Atape Wappa. Near to the north you meet with the river Siria Mixui; and near the village of Natal, and the fort of Tres Reyos, passes a river called the Cross River, which arises out of a small lake in Rio Grande. Over-against the same fort, a fresh river falls into the great river, betwixt two land-banks, and not far from thence another salt-water river.

The fort Keulen was four-square, built upon a rock or point of a receif, at some distance from the shore, at the mouth of the river Receif; being surrounded with water, as often as it is flowing water, so that at high tide there is no coming at it but with boats. In the midst of this fort is a small chapel, where in 1645 and 1646 our people found a wall about a foot and a half wide on the top, but at the bottom three foot, cut within a rock, which brings fresh supplies of good and sweet water every tide; with an ordinary tide two hundred and twenty-five, and at spring-tide about three hundred and fifty quarts; which is more than sufficient for the use of the garrison, in case of a siege. The fort is built of square stone; being towards the shore defended with two half bastions, in form of hornworks. In the year 1646, there was an artillery of twenty-nine, as well brass as iron pieces of cannon in the place, and provided with a good undervault, and convenient lodgments for the soldiers.

This fort was in 1633 taken by the Dutch, under the command of Matthias van Keulen, one of the governors of the company, who being assisted by several noted captains, viz. Byma, Kloppenburg, Lichthart, Garstman, and Mansfelt van Keulen, set sail thither with eight hundred and eight men, embarked in four ships and seven yachts, and made himself master of it, and the whole captainship at the same time; since which it changed its name Tres Reyos into that of Keulen, from the commander-in-chief of this expedition.

The Tapoyers (or mountaineers) use commonly twice a-year, especially when the dry season puts them in want of fresh water, to make an inroad into this captainship; there being a constant enmity betwixt them and the Portuguese. It happened in July 1645, that these Tapoyers being advertised that the Portuguese intended to revolt from us, and had actually begun the same in Pernambuko, did, under the conduct of one of their leaders, called Jacob Rabbi, after several provocations given them by the Portuguese, make an incursion into Kunhao, where they killed thirty-six persons in a sugar-mill belonging to one Gonfalso d'Olivera. From thence they marched to a certain place, where the Portuguese had cast up a line for their defence, which they made themselves masters of, and put the Portuguese to the sword. The Brazilians told us, that this had been done in requital of what had been done to some of those mountaineers by one Andrew Vidal, in Serinhaim, after quarter given them before, of which we shall say more hereafter. Since which time, the Portuguese have laid this tract desolate, which the Dutch once had a mind to re-people, and to put it in the same condition-as the Portuguese had possessed it, but for want of people that design was fain to be laid aside.

The captainship of Siara is one of the most northerly districts of Brazil, bordering upon Maranhoon to the north upon the river Siara. It is of no great extent, its whole compass being not above ten or twelve leagues.

The river Siara, which rises deep in the continent, disembogues about seven leagues and a half to the north of the bay Mangorypa, under three degrees forty minutes southern latitude.

The native inhabitants of this captainship, according to the report of those that have frequently visited it, are very large of stature, with ugly features, long hair, and black skin; except the space betwixt the eyes and mouth. They have holes in their ears, which hang downwards upon the shoulders; some make holes in their lips, some in their noses, in which they wear stones as an ornament. Their food is farinha, wild fowls, fish, and fruit. They drink most water, but make likewise a certain liquor out of farinha; and of late began to be used to drink good store of brandy, though it was expressly forbidden to bring it into the villages, to keep them from the excessive use of strong liquors. The country produces sugar-reeds, chrystal, cotton, pearls, salt, and several other commodities. Amber-gris is also found on the sea-shore.

The inland part of the country was in 1630 governed by one of their own Kings, called Algodoi; in some respect tributary to the Portuguese, who had built a fort upon the river Siara, and made themselves masters of the whole sea-coast thereabouts; notwithstanding which they were in continual broils with one another, till 1638 this fort and the whole country was taken by the Dutch from the Portuguese, in the following manner.

Count Maurice and the council being solicited by the natives of that country to make themselves masters of the Portuguese fort on that side, and to deliver them from the oppression they lay under at that time, they offering their assistance, and giving two young lads of their best families, as pledges of their fidelity, this condition was resolved upon. The chief command over the troops designed for this exploit was conferred on Colonel John Garstman, a man of more than ordinary conduct in martial affairs; though, as the case then stood, this enterprise was not likely to meet with any considerable difficulties; being assured of the assistance of the Brazilians, who bore an old hatred to the Portuguese, and were acquainted with the strength and condition both of their forces and places. Garstman being provided with ships, men, ammunition, and all other necessaries requisite for such an expedition, set sail towards the river Siara; where being met by the Algodoi, or King, with white ensigns in token of peace, and having landed his men, two hundred of the natives joined with them. With those he marched directly to the fort, which after a brave resistance from the Portuguese, who killed some of his men, he took by storm, and made most of the garrison prisoners, among whom were some commanders of note. They found good store of cannon and artillery in the place.

Since that time, the Dutch built a small fort upon the Siara, unto which they gave likewise the name of Siara, which was provided with a garrison of betwixt thirty and forty soldiers only; not so much for the defence of the country, as to maintain a good correspondency with the Brazilians, who, being very numerous in those parts, might do us considerable service in time of war. It was upon this consideration, that the great council always commanded their officers, sent thither, to cultivate a good understanding with them; and at several times sent them some small presents, which however proved ineffectual in the end, for in 1644 they attacked and killed several

of our men at Komefy, (a place about thirty leagues from Siara,) as we shall hear anon.

For the Brazilians being, in 1641, increased to such a number in Siara, that the villages thereabouts were not able to contain them without great inconveniency, whereas the district of Rio Grande was almost destitute of inhabitants, and consequently not in a condition to oppose an enemy; one Andrew Uliifs proposed to the great council to build a village in Rio Grande, for the use of such as intended to settle there out of Siara, desiring to be constituted chief of the said village. Count Maurice and the great council, being informed of the inclinations of those of Siara, who were willing to settle in Rio Grande, their ancient place of abode, and considering the benefit that was likely to accrue to the company, from the settlement of those Brazilians so near at hand, granted Uliifs's request, wishing him to bring thither as many of the Brazilians of Siara as he thought convenient, for the compass of a village of which he was made chief or captain. Things being thus settled, they chose, with the approbation of our directors, certain chiefs or heads out of the most ancient families of each division, called Refidoor by the Portuguese, and certain judges; as for instance, in Goyana, Domingoi, Fernandes, and Karapeva; in Parayba, Peter Potty; and in Rio Grande, Antonio Perapeva. Notwithstanding all this, the Brazilians of Siara revolted against the Dutch, in 1644 surprised the garrison in the fort, which they raised, and killed the commander-in-chief, Gideon Morritz, with the whole garrison, besides all the workmen belonging to the salt-pits near the river Upanemma, who were all cut in pieces by these barbarians.

A certain master of a ship, with a captain, lieutenant, and some soldiers, who happened to come ashore in a boat to fetch some fresh provisions, being ignorant of their treachery, were also put to the slaughter, three seamen having the good fortune to escape with their lives into the wood.

Some laid the cause of this rebellion at the door of the Portuguese and Brazilians of Maranhaon, bordering upon them; but if we search into the true source of this evil, it must be attributed to the miscarriage of our own officers, who, by their hard usage, had forced the inhabitants to revenge themselves for the injuries received at their hands.

Thus much concerning the captainships of the Dutch Brazil; we will, in the next place, give you an account of all the memorable transactions that happened betwixt the Dutch and Portuguese in Brazil, during our stay there: after I have represented to you the excellency and convenient situation of this country, together with the ecclesiastical state of the Dutch Brazil.

Brazil is a country excellently well qualified by nature for the producing of all things which are generally found in the West Indies, under or near the same climate; except that hitherto no gold or silver mines have been discovered here worth taking notice of. But next to gold and silver, the sugar claims the precedence here before all other commodities. Among all the harbours and places of the West Indies, there is not one that can compare with Brazil, either for the product or conveniency of transportation of sugar; the whole coast of Brazil being full of small rivers, which, flowing through the adjacent valleys, disembogue in the sea; from whence the sugar-mills, built in the valleys, reap the benefit of saving vast charges, which else must be bestowed upon labourers and carriages; whereas these rivers drive the mills, serve for the transportation of sugar to other places, and furnish them at an easy rate with what commodities they stand in need of; all which conveniencies, as they are not to be met with in any other place of the West Indies, so no sugar-mills could be erected

there with any prospect of profit. The exportation of sugar from Brazil into Europe and Africa is likewise performed with much more ease than from any other places in the West Indies ; for the situation of Brazil (being the most eastern part of all America) is such, as could not be more conveniently contrived by human art or nature for the transportation of so general and agreeable a commodity as sugar, into all the other parts of the world ; considering those two excellencies of Brazil, together with its vast extent, it is most certain, that, provided it were well peopled, it might command both the North and Ethiopian Seas, and spread its commerce over all parts of the world ; nay, it might extend its conquests both to the east and west, or at least establish factories there, for the conveniency of traffic. To prove which, it is to be observed :

That all East India ships, both going and coming, must pass by the coast of Brazil ; and as those ships, in their voyages thither, are often forced to touch upon this coast, so in their return nothing could be more commodious for them, than to be supplied with fresh provisions here. From Brazil you may sail, in fourteen days, to the Caribbee Islands, and in the same time, or a little longer, to Sierra Leona, on the coast of Guinea. It is impossible to enter deep into the great South Sea, (whereabouts a great part of the terrestrial globe remains as yet undiscovered,) unless you take in fresh provisions and firing in Brazil, or expose yourself to the greatest hazards imaginable in so long a voyage, as is sufficiently evident from the journals of Oliver Van North, Spilbergen, Le Maire, and John l'Heremite. And experience has taught us, since Mr. Brower's voyage to Chili, how easy the passage is betwixt Brazil and the South Sea ; for he lost not so much as one ship out of four, and very few died in the whole voyage.

Brazil enjoys likewise the advantage of a very wholesome climate ; for though it lies betwixt the equinoctial line and the tropic of Capricorn, and consequently is subject to burning heats, yet are the same much allayed by the winds, that blow out of the east from the sea, their free passage being not interrupted by any mountains or islands ; which is the reason, that in Brazil the same distempers are rarely to be met with, which reign so frequently in Angola, Guinea, St. Thomas, and several other places, where the east winds cannot afford them the same advantage. A plague is a thing unknown in Brazil, in which it excels all other countries ; though they are not free from continual putrid fevers, caused by the hot and moist air, and the excessive use of raw fruits.

Those that are bound for the coast of Brazil, ought to have a special regard to the season of the year, which regulates the winds and stream thereabouts ; and to be very careful to sail above the harbour whither they are bound ; for if they miss, and come below it, they lose their aim, and must stay till the next turn of the wind and stream. For it is observable, that on the coast of Brazil, the stream runs from February till past July, constantly northerly, during which time there is no passing from the north to the south ; but after those months are past, the stream turns, and from the beginning of September to the latter end of November runs as violently to the south as it did to the north before, and consequently there is no sailing from the north to the south, no more than before from the south to the north. The winds here turn with the stream ; and at the beginning of March, blow south-south-east, and south-east. And like as the stream changes its current till September, so the winds continue in the east, and blow till that time out of the east-south-east. For there are but two winds that reign along this coast, viz. the south-east and north-east winds ; according to which, ships must regulate their course here.

The ecclesiastical state of the Dutch Brazil was, in my time, thus ordered :

Before the insurrection of the Portuguese, there were, to the south of the Receif, five Protestant churches; viz. in Rio St. Francisco, Porto Calvo, Serinhaim, the cape St. Austin, and St. Anthony; though these were seldom altogether provided with ministers, because that some or other of them returned into Holland after their limited time was expired. In the isle of Tamarika and fort Orange, was at that time a minister, one John Offringo, who lived formerly in the town of Schoppe, and at the same time preached in the church of Igarassu, which was afterwards left by the Dutch and possessed by the Portuguese. In Rio Grande preached one John Theodore Polheim. In Parayba were formerly two ministers, whilst the town of Frederica was as yet under the Dutch jurisdiction, but after the revolt of the Portuguese, the place was left by the inhabitants, and Henry Harman was the only minister in those parts. In the Receif, Maurice's Town, and the circumjacent forts, which contained about four hundred Protestants, Dutch, French, and English, were three ministers, who preached in the Dutch tongue; Nicholas Vogel, Peter Ongena, and Peter Grib. Besides these there was a fourth, called Jodocus Aftett, who formerly had been minister of the cape of St. Austin, but now was employed either aboard our fleet, or upon any land expedition. The French church here remained without a minister, after the departure of Joachim Solaer, so that they were forced to be contented with reading of certain chapters of the bible, and prayers every Sunday morning. The English minister was one Samuel Batchelour, who, in 1646, returned likewise to England; about which time there were seven Dutch ministers in the Dutch Brazil. Our religious worship was, both in its doctrine and practice, regulated exactly according to the prescription of the synod of Dort, and peculiar care was taken for the education of the youth, for which purpose the catechism was every Sunday in the afternoon explained, both in the Receif and Maurice's Town. Four times in the year the holy sacrament was administered, those who desired to be partakers of it, being obliged to make their confessions before the church-council, or the ministers, who entered their names in a book; and if they came from abroad, published their names to the congregation; and in all other respects the church-discipline was carefully observed. The church-council was composed of six church-wardens, besides the minister; these met duly once a week, and if any business of moment happened, such as chusing a minister, &c. they called the deacons, who were likewise six in number, to their assistance. Out of the deacons were every month chosen two, who (besides their ordinary business) were to visit the sick and wounded, and to provide for them if necessity required. They also took care of the orphans, to have them instructed in reading and writing. In the same manner the other churches were regulated, with this difference only, that the number of church-wardens and deacons was less, in proportion to the number of their respective congregations. Thus much of the ecclesiastical state.

Besides those living creatures we have given you a description of before, there are divers sorts of bees in Brazil, called Eirukus, which settle upon the trees in a most surprising manner. They are not unlike our bees, but somewhat smaller, and swarm chiefly among the woods. The Brazilians distinguish them into twelve different kinds, viz. Amanakay Miri, Amanakay Veu, Aibu, Mumbuka, Pixuna, Urutueta, Tubuna, Tujuba, Eiruku, Eixa, Kubiara, and Kurupireira; the last of which are in no esteem among them.

The bees Eiruku are the largest of all, and produce a very good honey, though it is not commonly used. They make their combs within the hollowness of trees, which the Brazilians draw from thence by means of a hollow pipe. The bees called Eiku and

Kopy are smaller and of a blackish colour; they make holes from without, in the bark of the trees, in the nature of bee-hives, and the comb within is all of white wax; this is now counted the best thing, but is not gathered in the same quantity as the former; besides that, these bees sting very furiously. The bees *Thanbuka* are likewise small, of a yellowish colour; they fix their combs on the top of the highest trees, and afford the best honey, which is in great quantities transported from hence to Europe, where it is sold very cheap. It is little inferior in goodness to the European honey, and of a good substance, transparent, and of an agreeable scent. It is accounted very balsamic, corrects the sharp humours in the intestines, and especially in the kidneys, and provokes urine. They make of this honey *metheglin*, which is very strong, and will keep a great while: you may also make meath of this honey without boiling, only mixed with some spring water, and exposed to the weather.

Brazil produces likewise several sorts of balsams, the best of which is called by the Brazilians *Kopaiba*, from the trees from whence it comes. *Kopaiba* is a very high wild tree, with an ash-coloured bark, which spreads at the top into many branches. The leaves are about half a foot long, sometimes larger, sometimes lesser, which in the midst of the branches stand opposite to one another, but on the end like other leaves. At the end of the great branches are abundance of lesser sprouts full of leaves, out of which comes forth the blossom, and afterwards berries, not unlike our laurel-berries. They are green at first, but as they ripen turn black and sweet. Within is a round hard stone, the kernel of which is white, but mealy, and not fit to be eaten. The berries ripen in June, when the Brazilians suck the juice out of them, and throw away the stone and skin. The apes take great delight in this fruit.

The oily and odoriferous balsam, in which this tree abounds, drops every full moon, provided you cut a slit through the bark as deep as to the pith, in such quantity, that in three hours time you may gather above twelve *mengeln*. But if that does not drop immediately, the slit is made up with wax, and within fourteen days they are sure the balsam will come in great quantity. This tree does not grow so plentifully in the captainship of *Pernambuko* as in the isle *Maranhaon*, from whence this balsam is transported into Europe. The balsam is hot in the second degree, of a thick, oleaginous, and refinous substance. It is very stomachic, and a good remedy against the cholic occasioned by cold, externally applied to the affected parts; some few drops taken inwardly strengthen the bowels, and stop the overflowing in women, the looseness, and involuntary emission of seed in men; against which distempers it likewise is used in clysters, or by syringing. Thus far concerning the Dutch Brazil; we will now proceed to give you an account of what passed during our abode there.

In the year 1640, Mr. Henry Hamel, one of the directors of the West India company for the chamber of Amsterdam, and Mr. Dirck Kodde Vander Burgh (both persons excellently well qualified for the management of the Dutch Brazil, and of great experience in affairs of commerce), were, at the request of the council of Nineteen, sent to Brazil, and arriving there on the 8th of August, the two preceding directors or counsellors, Matthias Van Keulen and John Gijseling, resigned their places to them, and with them the chief management of the Dutch Brazil, under the government of John Maurice Count Nassau.

At the time of their arrival in Brazil there were under the jurisdiction of the states the following captainships: *Pernambuko*, *Itamarika* (unto which belongs *Goyana*), *Parayba*, *Rio Grande*, and *Siarã*, being the northern part of Brazil: the southern part, which contained the captainships, *Bahia*, *Ileos*, *Porto Securo*, *Spirito Santo*, *Rio Janeiro*, and *St. Vincent*, remained under the Portuguese, who inhabited the country as far.

far as Rio de la Plate. Not many months after, the island of Maranhon was joined with the Dutch Brazil, but the charges we were fain to be at to defend it against the Portuguese, those of Para and the natives, which over-balancing the profit the company was likely to reap from thence, it was thought most expedient to quit the same, which was done accordingly in the year 1644; or rather, to confess the truth, by the combination of the Portuguese, those of Grand Para and the natives, we were forced to abandon it.

Before the arrival of those new directors, a fleet had been sent to the Bahia to land some men there, and to destroy all with fire and sword; which, after they had put in execution, and returned to the Receif, the same fleet, under the command of Admiral Jol-and Cornelius Lichthart, was, by special command from the council of Nineteen in Holland, ordered to the West Indies to lie in wait for the Spanish plate fleet of Terra Fiuma and New Spain; but they returned without doing any thing, in December 1640, having lost four or five ships in this voyage. Colonel Koin was much about the same time sent with a body of soldiers into the captainship of Rio Real, to bridle the Portuguese, by making a diversion in their own territories, but those troops being but indifferently supplied with necessaries in an enemy's country, and forced to undergo great fatigues, they were so much weakened, that it was thought adviseable to recal them out of Rio Real, and to assign them quarters of refreshment in the garrisons. Major Van Brande had worse success than all the rest; for, being sent abroad with a party to fetch in some cattle, was put to the rout, and he himself taken prisoner.

In the mean-while that our whole fleet was waiting for the Spanish plate fleet on the coast of America, and we consequently were not in a condition to undertake any thing at sea, our directors had all the reason in the world to fear, that the Portuguese would take this opportunity to revenge their loss by destroying our sugar-mills, which made them leave no stone unturned to secure the Dutch Brazil and its inhabitants against the attempts of the enemy: and considering that a great part of our security depended on the good inclinations of the Portuguese living among us, it was thought convenient to call an assembly of the chiefest Portuguese inhabitants of the three captainships of Pernambuco, Itamarika, and Parayba, towards the latter end of August, to concert measures how to defend their sugar-mills and fields against the incursions of the enemy.

The most effectual means that could be pitched upon in this assembly were, to provide their forts with good garrisons on the borders, and to secure the sugar-mills, by putting a certain number of soldiers in or near them, for the security of the adjacent fields. This was put in execution accordingly; and the officers had strict charge to keep a watchful eye upon the least motion of the Portuguese; notwithstanding which, it had not the desired effect, because those Portuguese who lived at a considerable distance from us, and near the enemy's frontiers, durst not give timely notice of their approach; besides that, many among them having a constant hatred to our nation, did favour the enterprises of those parties that burnt the sugar-fields and plundered the mills, served them sometimes for guides, and had their share in the booty, which obliged our people to be at a constant charge of a strong guard to conduct their goods, and defend them against any sudden attempts. Such an incursion was not long after made by the Portuguese into our territories; for in November the viceroy, the Marquis of Montelvano, sent two barges full of soldiers to burn our sugar-reeds in the plains, which they effected, but durst not go too far, or attempt any thing against our mills, for fear of the soldiers quartered thereabouts, who could not prevent their burning in the fields, as being done in the night-time. The Dutch were the greatest losers by it, because they had generally the greatest share in those fields and mills, besides that the Portuguese spared those of their own

own countrymen; all which brought a great damp upon trade, every one being afraid to venture in any business, where he might lose all his substance in one night, and that perhaps by the hand of a single person, whereby the revenues of the company were greatly impaired, and their charges increased, being forced to maintain twenty or thirty soldiers for the defence of any considerable plantation or sugar-mills; which prevented them from bringing a sufficient body of men into the field, to make head against the enemy. This was the state of the Dutch Brazil towards the latter end of 1640.

The 22d of December, in the same year, Mr. Adrian van Bullestraete arrived at the Receif from Middleburgh, in the quality of director of Brazil, so that, now the great council being complete, the best expedient to obviate all these difficulties, was judged to consist in our fleet; pursuant to this resolution, all our ships were ordered to the Bahia, to make the enemy sensible that we were in a condition to be even with them, and thereby to facilitate the negociation that was in hand, for the surceasing of burning on both sides. The council of Nineteen having also sent express orders to cruise with some ships before Rio Janeiro, from whence the Spanish ships used generally to return into Spain, about the month of May or June, some of the biggest ships were ordered that way, to intercept, if possible, the flota, the rest being left near the Bahia.

But whilst our commissioners were treating with the viceroy about the surceasing of burning and plundering, a certain Portuguese, Paulo de Kunha by name, committed unheard-of cruelties, with murdering, plundering, and burning, in the open country, which made Count Maurice write the following letter to the viceroy:—

*Count Maurice's Letter to the Viceroy.*

“The barbarities lately committed by Paule de Kunha, with burning, murdering, and plundering, in the open country, give me great reason to fear, that your last obliging letter was designed for a compliment, without any reality. The confidence I had in your excellency's sincerity made me recal our ships and forces from your territories, to take away all means of offence: but the long stay of our deputies affords great occasion of suspicion, that your intention is only to amuse us; which has obliged me to dispatch a vessel to let them know, that in case the treaty is not brought to a conclusion, to return without delay; it being our intention that the said negotiation should not be continued longer. Your Excellency will therefore dismiss them, together with our two hostages, as we are resolved to send back to you Martin Feirara, left with us as a hostage from your excellency, his companion being dead of late.”

Hereupon, by the mediation of the clergy living under our jurisdiction, but especially by the indefatigable care of Dirck Kodde Vander Burgh, who was sent thither for that purpose, the treaty was brought to a happy conclusion in February 1641, by virtue of which, all destructions by burning and plundering were to surcease on both sides; which being published by proclamation, the Portuguese were ordered to quit our dominions, whereby we reaped this advantage, that now we might turn all our forces where we found it most expedient.

In June 1641, Count Maurice and the great council received advice of the ten years' truce concluded betwixt the States of Holland and the King of Portugal, with all the articles thereunto belonging, which were published by proclamation in all our captainships, and all acts of hostilities ceased on both sides; the Dutch living in good understanding with the inhabitants of the Bahia, giving them all the demonstrations of friend-  
ship

ship, sufficient to convince the Portuguese that they had not the least reason to fear any infraction on their side.

The great council being willing to improve this interval of peace for the advancement of traffic, and the benefit of the company, gave all imaginable encouragement, in proportion to the circumstances of time and place, to all the inhabitants of what nation soever, for the cultivating the lands, which had this good effect, that the masters of the sugar-mills rebuilt their mills, and the husbandmen betook themselves with so much eagerness to the cultivating of their sugar-fields, that they borrowed considerable sums, upon a prospect of sure gain, which would over-pay their debts; as, without question, it would have done in a short time, if, by the treachery of the Portuguese, they had not been disappointed in their hopes. The next thing to be taken in hand, was, to make such wholesome laws as were thought most expedient for the establishment and increase of commerce, both in the Recife and other places, and to improve the domains and other revenues belonging to the company, during this time of truce.

Trade then began to flourish apace, so that some time after the truce, the merchants and factors sold more commodities than had ever been known either before or since. Many millions were dealt for in a little time, the merchants and factors being contented to sell to those who would pay some money in part, though there were buyers enough who would and could buy for ready cash.

The finances of the company in Brazil were in so good a state, by the extraordinary care of the great council, that, in 1640 and 1641, they bought considerable quantities of sugar upon the public account, which they sent to Holland. In the Recife and Maurice's Town, we saw several goodly structures erected by the inhabitants, who lived in great plenty and magnificence, every one looking upon his debts as secure, and having a fair prospect to increase his riches, by the flourishing state of commerce and improvement of the lands.

But this was of no long continuance, for, in the beginning of 1643, things began to appear with a quite different face; for the magazines of the company being exhausted by several expeditions against Angola, &c. and having received no supplies in their stead out of Holland, as they used to do before, the great council was obliged to make use of what was due to the company, for the payment of the garrisons and other officers, and, consequently, to force their debtors to prompt payments.

For at the beginning of the government of the new directors, the company had a considerable naval force upon the coast of Brazil, their magazines were well provided with provision and ammunition, and they maintained a good number of soldiers. The great council of the Dutch Brazil relying upon their strength, did, with consent of Count Maurice, send, in 1641, several fleets with soldiers to Spirito Santa, Rio de Janeiro, the isle of Maranhaon, Angola, St. Thomas, and other places thereabouts, to attack the same, which succeeded according to expectation; but their magazines were greatly exhausted by those expeditions. Besides this, the merchants in Holland began to call upon their servants and factors for considerable sums of money, in return of what they had received from them; who being obliged to send all the money they could bring together from their creditors to their masters in Holland; this occasioned great scarcity of ready-money, and, consequently, no small detriment in traffic, which continuing thus from time to time, there arose such a general scarcity of money as is scarce to be imagined; many of the masters of the sugar-mills, that had no ready money to satisfy their debts at the appointed time, being forced to take up money upon credit, and to pay three or four per cent. per month, which reduced many of them to such

such an extremity in a little time, that they were neither able to pay the principal nor interest.

Upon the arrival of the three new directors, or members of the great council, in 1640, viz. Henry Hamel, Kodde, and Bullestraet, they found that the inhabitants, but especially the Portuguese of the Dutch Brazil, by buying of sugar-mills and plantations, as well as negroes and other commodities, had run themselves much in debt; having bought their negroes not only at three hundred pieces of eight per head, but also given most extravagant prices for all other sorts of commodities, and purchased whole warehouses, without making a just account how to be able to pay for them. This was done by the Portuguese, in hopes of the good success of those great fleets they understood were equipping in Spain, to reduce Brazil under the King's obedience, which they supposed would free them from their debts; which the factors not being aware of, and, blinded with the prospect of vast profit, sold their goods to the Portuguese without reluctance. But the design of the Portuguese vanishing into smoke for that time, they were forced to pay; but new supplies of all sorts of commodities being sent out of Holland, they bought on a-fresh, heaping debts upon debts, till, failing in their payments, their credit began also to fail with the merchants, who now began to urge for satisfaction of their debts. For the country-trader being urged by the factors and merchants, who received those commodities from their correspondents in Holland, was obliged to call to an account the Portuguese unto whom he had sold the goods. And because the Portuguese had not bought those commodities from the Dutch, but with an intention never to pay them, the country-trader, who was obliged to pay the merchants in the Receif, saw himself reduced to ruin, the Portuguese having not wherewithal to satisfy their debts.

Thus, through the unwariness and mismanagement of those factors, whom the merchants in Holland had intrusted with their goods, such a confusion was introduced, as tended to the great detriment of their correspondents in Holland. All the business at that time lay among the lawyers, and in the courts of judicature, which, considering the chargeableness of law-suits in Brazil, tended to their farther ruin; for when they had obtained sentence and execution against the debtors, the greatest difficulty was, how, and which way, to lay the execution; most of the Portuguese suing for protection from the Regency, which, if they could not obtain, they lived incognito; especially those who had no lands or effects, or if they had, it was no easy matter to find out where they were. Besides that, if the creditors executed their executions upon the lands, they were forced to be the buyers themselves, and to live in the country to manage the lands, a thing altogether inconvenient to the merchants, who had other business upon their hands in the Receif. Such as were cast into prison must be maintained there at the charge of the creditor, which, in process of time, amounted to such a sum, that they themselves were fain to solicit the releasement of their debtors, and to make the best composition with them they could.

Besides these inconveniences, there have happened of late several others, viz. a great mortality of the negroes and Brazilians, by a certain infectious distemper, incident to the natives, called Bexigos, resembling our small-pox in Europe. Most of these negroes were bought at the rate of three hundred pieces of eight, and, consequently, their loss drew after it the ruin of the planters, who also complained much of vermin, and several inundations that had done considerable damage to the sugar-fields. This confusion in traffic introduced no small broils among the inhabitants themselves, who, in case of non-payment, threw one another into prison without mercy, and endeavoured to prevent one another, by clandestine means, to get in their debts before the rest;

offering considerable abatements and rewards to such as would underhand surrender or transport their effects; and those divisions were not a little fomented by some ill-minded persons, to the prejudice of the government; many of those, who, either by unwariness or other mismanagement, lost their debts, laying the fault thereof at the door of the Regency and of the courts of justice, vainly imagining, that what they had lost by their own neglect or want of care, should be made good by the public purse; especially if it happened so, that the same persons were indebted to the company as well as private persons, there arise great contests about the preference.

The debts of the company did also increase every day, which at last amounted to some millions: for the directors, which before the year 1640 had the management of affairs in Brazil, did sell most of the confiscated estates, sugar-mills, and merchandizes, as well as the negroes bought on account of the company in Africk, upon credit, so that their books were filled with debts, but their cash empty of money. The succeeding members of the great council, Messrs. Hamel, Bullestraet, and Kodde, did leave no stone unturned to correct this custom, and to sell their commodities for ready money, or otherwise to exchange them for sugars, thereby to ease the company in the great charge they were forced to be at in their several expeditions; and it is certain, that in 1640, 1641, and 1642, they sent such vast cargoes of sugar to Holland, that the like had never been known before in Brazil. Notwithstanding which, by the vast numbers of negroes that were imported, after our conquest of Angola, the company fell more and more in debt, by reason their debtors were very dilatory in their payments. The council of Nineteen sent express orders to remedy this evil, by selling the negroes for ready money, or exchanging them for sugar; but this could not be put in practice, because there was nobody who would buy upon those conditions, so that the price of the negroes falling daily lower and lower, and these being a great burden to the company, and subject to distempers and mortality, this order was fain to be revoked, unless they would see the negro-trade dwindle away into nothing; for the inhabitants being for the most part such as had bestowed most part of their substance in the sugar-mills, plantations, and negroes, they could not pay ready money, but were forced to deal upon credit, till they could reap the benefit of their labour.

The members of the great council did therefore take all imaginable care to call upon their debtors exactly at the time of their sugar-harvest, and ordered their officers in the country to seize upon some of them on account of the company.

From hence arose nothing but law-suits, sentences, executions, and imprisonments: the members of the great council thinking it not below their station, to go sometimes in person into the country to promote the payment of the debts owing to the company. But this had a contrary effect, for the merchants and factors began to be extremely dissatisfied, that the company should seize upon the sugar in the mills, without letting them, who were creditors as well as they, have their share in them. This occasioned not only murmurings, but also threats and complaints to the council of Nineteen, where they misrepresented these transactions under the worst colours they could, hoping thereby to deter the officers of the company from doing their duty. The great council having taken the matter into mature deliberation, and fearing, not without reason, that in time it might occasion a general discontent, they left no stone unturned to satisfy the minds of the people, by finding out means to have their debts satisfied. It was proposed by several understanding persons, that the company should undertake to satisfy the debts of private persons, either by way of payment or exchange; in lieu of which the masters of the sugar-mills should surrender to the company every year, the whole product of these mills, till they had satisfied all their debts. And to make the same the more effectual,

for the general benefit as well of the company and sugar-mills, as the merchants and factors, it was agreed, that certain articles should be agreed upon for that purpose; the greatest advantage the company pretended to reap by it being, that they should have a fair opportunity of recovering some of their debts, which were given over for lost. These agreements were wonderfully pleasing to the council of Nineteen, who in the year 1645, on the 16th of June, sent their approbation of a second agreement made with one George Homo Pinto (which indeed was of as great consequence as all the other contracts together) to the great council as follows:

*Approbation of the Agreement.*

“Concerning the agreement by you (meaning the council) on the 14th of December last, made with George Homo Pinto, we have had several debates, which we find to have been brought to a conclusion, with the previous advice and approbation of the counsellors of justice and of the finances; so that both in respect of the same, and of the great benefit that is likely to accrue thereby to the company, we have thought fit to approve of the said agreement; recommending to you the execution of it, with the same zeal as you have shewn your conduct and circumspection in the whole management of these contracts.”

That these agreements were by all people, that had any knowledge of those affairs, looked upon as greatly for the interest of the company, is most evident from hence, that several other merchants that were sensible of this advantage, made agreements with their debtors much upon the same terms as the company had done; which, that it may be put beyond all doubt, we will give you a copy of one of those agreements, from whence it will plainly appear with how much circumspection the council proceeded in this matter, betwixt the company, the masters of the sugar-mills, and their debtors.

*The Copy of an Agreement.*

“Mr. Peter John Bas, and John van Ratsfield, counsellors of justice of Brazil, by special commission from the West-India company, and John van Walbeeck, assessor of the great council, did appear before us on one side; and Manuel Fernando Cruz, Sieur de Ingenho Tapicura, in behalf of himself and his heirs; as also Benjamin de Pina for ten thousand six hundred guilders; Isaac de Costa for thirteen thousand one hundred and eight; Joseph Abenacar for four hundred and ninety; Simon de Vale for three hundred and twenty-five; Gasper Francisco and David Brandoa for eleven hundred and thirty-three; Abraham de Tovaer for one thousand; John Parente for three hundred and fifty; John Mendonça de Moeribeca for four thousand three hundred and fifty; James Gabay for one thousand and fifty; More de Leon for six hundred; Balthazar de Fonseca for six hundred; Simon Gomes de Lisboa for five thousand nine hundred and ten; Bartholomew Rodrigues for nine hundred; and Daniel Cardoso for nine hundred and ten guilders; the whole amounting to forty thousand five hundred and twenty-six guilders, being all creditors of the said Manuel Fernando Cruz, and for the most part debtors to the company on the other side, who profess and declare to have agreed among themselves, that the before-mentioned Manuel Fernando Cruz, shall pay to the company the full sum of sixty thousand seven hundred and ninety-five guilders, viz. nineteen thousand two hundred and sixty nine guilders upon his own account, being by him owing to the said company, and the remaining sum on the account of his credi-

tors, which, proportionably to their respective debts, ought to be discounted for with him by the said company, upon the following conditions :

“ 1. That the whole debt is to be satisfied in the three next following years, the first payment to begin in January 1645, and if it happen, that in one year a less share be paid than in the other, the whole is to be made good in the last year.

“ 2. That no discounts shall be entered in the books of the company, until after the payment of the due proportion appointed for each respective term of time.

“ 3. That the creditors of those with whom they have entered into articles of agreement, as well as the debtors of the company, shall not be discharged of their debts in the books of the company, but in case of failure or delay of payment, either of the whole sum or part thereof, all the respective appointed times, shall stand engaged and answerable, each for his respective debt, unless they give other security to the company ; but those creditors who have no debts in the books of the company, shall have liberty to transfer other debts, or else to receive their share in two years time, either by assignments or in negroes ; but not in any commodities imported from abroad, or sugar to be exported ; provided nevertheless that the articles of agreement be fulfilled, or otherwise the sum be put to their own account immediately, in which case they are to allow eighteen pound per cent. and nevertheless be liable to see the agreement put in execution.

“ 4. Those who are entered into articles of agreement shall be obliged to engage both their body and goods for the performance thereof, but especially to deliver an inventory of their personal estates, confirmed by oath ; besides which, they are to give such securities as shall be approved of by the great council ; with renouncing the *beneficium ordinis, divisionis, et excusationis*, as well for each respective payment at the appointed times, as the whole sum in general.

“ 5. These before-mentioned securities are to be persons well-qualified, of good substance, not involved in debts, but especially in the company's ; and shall be warranted by the magistrates of their respective places of abode.

“ 6. Public notice is to be given to all persons who have any bonds, bills or accounts, or other engagements relating to the personal estates (which shall be named or specified), of such as are entered into those articles, that within the space of three weeks they are to produce the same, or else be excluded from the benefit thereof, till after the expiration of the time mentioned and appointed in the said agreement.

“ 7. That he who has engaged himself in such an agreement or contract, shall not be permitted to contract new debts, unless with the consent of the great council ; otherwise the same to be void and null, of which public notice shall be given. Neither shall he abalienate any sugars by land as remains, under the penalty of restitution to be made with full interest and charges.

“ The creditors shall be obliged to surrender and renounce all their pretensions, engagements, and actions, to the company ; neither shall they lay any claim upon that score of precedence, or otherwise.

“ Whenever it shall be judged requisite, by the great council, to send a certain person to the Ingenho of any person entered into such an agreement, for the better security of their debt, and the receiving and sending away the sugar allotted to the company, he shall be obliged to find him with victuals and lodgings in his Ingenho ; but the company shall pay him for his pains.

“ Pursuant to which, the before-named Manuel Fernando Cruz, with the advice and consent of his before-mentioned creditors, has obliged himself in general, and by these presents, obliges and engages his person and estate, both real and personal, without any reservation or exception ; but especially the before-named Ingenho Tapicura,

with all its appurtenances, according to the inventory there affixed and confirmed by oath; which Ingenho Tapicura he declares to be free from any pre-engagements, with all the grounds, sugar-fields, pasturages, woods, and other things thereunto belonging, viz. eight brass calderns, ten tachoos, and ten parvos, besides several other copper vessels belonging to the said Ingenho; twenty slaves belonging to the said Ingenho, and Manuel Fernando Cruz, his house and sixty oxen. And for the better performance of this agreement, Senhor John de Mendose, dwelling at Moeribeca, and Manuel Gomes de Lisboa, living in Moquiaxe, have, after certificates obtained from the magistrates of their respective dwelling-places, engaged themselves, and do by these presents engage themselves as securities for the whole debt, and as debtors for each and every part thereof, promising to indemnify the company of all actions, suits, or other pretensions which may be made against them on account of any other creditors of the said Manuel Fernando Cruz, not mentioned or engaged in this agreement; as likewise, that no sugar shall be surreptitiously conveyed away or abalienated: that in case of non-payment, the company shall be hereby fully empowered to recover their damages with interest and charges, upon their persons and estates; they renouncing by these presents all exceptions, *ordinis, divisionis, et excusationis*, as likewise all other pretensions of privileges tending to the invalidity of this contract. The before-named creditors also, in general, and every one of them in particular, declare that they have given in a true account of all their respective pretensions upon the said Manuel Fernando Cruz, neither that they do demand any other sum or sums of him, but what have been specified there under their respective names; promising to be well satisfied with what has been stipulated, and, if put in execution accordingly, to renounce all actions or private engagements, discontents or preference in favour of the company; and that in case of non-payment, they will be obliged to make good and restore to the said company, not only each particular sum paid at certain limited times, but also the whole, in the same manner, as if the said agreement had never been made betwixt them; leaving it to the discretion of the company, whether they will lay their actions against Manuel Fernando Cruz and his securities, or against themselves and their estates; under the condition they were in before the conclusion of this agreement; the benefit of *actionem cessam* being allowed them against the said Cruz and his securities, for the recovery of their just debts. In witness and confirmation of which we have granted these our letters, as usual in such cases, sealed with the ordinary seal of the court of justice, and signed by the secretary of the council. Translated in the Receif, 23d September 1644."

In the same manner all the other contracts were made and penned; the contents of which amounted, in the whole, to two million one hundred and twenty-five thousand eight hundred and seven gilders, which were due from the farmers to the masters of the sugar-mills, and from those again to the company.

The chief, if not the only reason, why these agreements were resolved upon, was, (as we said before) the intolerable vexations and exactions put upon the masters of the sugar-mills by their creditors, who, unless these masters paid them at the rate of two or three per cent. interest per month, made immediate seizure of their negroes, oxen, coppers, and other necessities belonging to the sugar-mills; so that the masters of these sugar-mills being reduced to a necessity of paying such exorbitant exactions, or else to see themselves entirely ruined, began to defend their plantations and mills by force, so that things seemed to tend at that time to a general insurrection, if the same had not been prevented, by entering into those contracts; by which means, the masters of the sugar-mills being freed from the oppressions of their creditors, and in lieu thereof now become debtors to the company, and time given them to employ their mills for the payment

ment of their debts, at certain limited times, and that at the rate of one per cent. interest per month only, all pretensions and occasions of a revolt were thereby removed, at least for that time; the first term of payment being set out for a considerable time.

To make this the more evident, these following heads deserve our particular observation: that the company and the merchants, being creditors of the masters of the sugar-mills, endeavouring at the same time to force them to the payment of their debts, by executions: this occasioned, from the year 1647, to the time of the making of those contracts, such a confusion, as must needs have tended to the total destruction of the sugar-mills, and, consequently, of the merchants and company; which induced them to apply themselves to the great council, to find out some means, by way of discount, or otherwise, to put these debts into the company's hands.

The counsellors of justice did not, at first, agree in all points to these proposals, but at their meeting on the 12th of August 1644, being better convinced of the matter, and that the company was sufficiently secured and benefited thereby, the next following day did not only approve of the same, but also were of opinion, that some things might be rather mitigated for the advantage of the masters of mills and their creditors, than not to relieve them at this juncture; so that the conditions were, the 10th of November 1644, agreed unto with the consent of the counsellors of the court of justice and the finances.

Pursuant to these, the great council took care that public notice should be given of these agreements made betwixt the company and certain private persons, by which every one was forewarned not to sell any thing upon credit to them, without the consent of the great council; and their creditors summoned to make good their debts within three weeks time, or else to be excluded from the benefit of the contract, till after the time therein limited was expired. From all which, it is sufficiently demonstrable, with how little appearance of truth some have attempted to insinuate, that these contracts were prejudicial to the company, and had given no small occasion to the ensuing revolt of the Portuguese; when it is beyond all question, from what has been said before, that these were the only means to prevent those calamities, wherewith the masters of the sugar-mills, and the farmers or country-planters, were overwhelmed all at that time, who were forced to let their mills stand still, and leave the ground uncultivated; all which, as it tended to the utter destruction of the sugar-mills, so the company sustained an irreparable loss, viz. thirty-eight pounds per cent. yearly in Brazil, and thirty-seven pounds per cent. in Holland, which being seventy-five pounds per cent., did altogether arise from the use of the sugar-mills.

Besides this, there were not a few of those merchants that were creditors of the sugar-mills, that were considerably indebted to the company, who pleaded insolvency, by reason of the non-payment of their debtors; the company would have been considerable losers by them, unless by this way of discounting, they had found means to recover those desperate debts. All which moved the great council to make a virtue of necessity, and, with the advice of the masters of the sugar-mills and their creditors, and the approbation of the council of Nineteen, to enter upon those articles; which could not be in anywise detrimental to the company; though some malicious persons have objected against them, that (supposing there had been no revolt) these masters would not, in twenty years, nay, perhaps never, have been in a condition to wrong the company, what they had laid out upon their account; when it is sufficiently known that the great council never paid one farthing of ready-money for them on the account of the company; besides, that for the satisfaction of the company, twenty-five sugar-mills were engaged, which, one with another, affording from two hundred and thirty to

to two hundred and fifty chests of sugar yearly ; if the company had drawn but a hundred and forty or a hundred and fifty chests from each, the same would have amounted to four hundred and twenty thousand gilders ; from whence it is evident, that, not to include the sugar-mills, their coppers, oxen, and other instruments thereunto belonging, the sum of two millions one hundred and twenty-five thousand eight hundred and sixteen gilders, being the total sum of the debt owing to the company by virtue of these contracts, might have been satisfied without much hazard ; the Portuguese masters of the sugar-mills, being by this expedient left in the quiet possession of their mills, and eased from the oppressions of their creditors, and our hopes were not a little increased by the industry of the inhabitants of the country, who, finding themselves now at ease, applied themselves with so much assiduity to the improvement of their plantations, for the better satisfying of their debts, that, in 1645, there was such a fair prospect of a plentiful harvest of sugar, as had not been known in many years before.

But it seems as if the Portuguese, out of an in-born hatred to our nation, who had conquered them, were resolved not to rest satisfied, till by underhand practices and plots they had undermined our government. Add to this, that many of them having involved themselves over head and ears in debt, and seeing no way to satisfy their creditors, were become desperate, and more forward to run the hazard of an open revolt (in hopes of assistance from Portugal), than to undergo the unavoidable necessities of poverty ; which made some of them frankly tell our people afterwards, that in case they were disappointed in their hopes of succours from the Bahia, they would seek for aid in Spain or Turkey.

Towards the latter end of the year 1642, there were rumours spread abroad of a plot contrived by the Portuguese against the state, when they were disarmed, and their arms brought into the magazines, which however they got again under some pretence or other afterwards, they living very quietly among us, for fear, as I suppose, of our garrisons, and that they were not then sufficiently assured of succours from the Bahia. But it will not be amiss to trace the true origin of this revolt.

The 13th December 1642, one John Fernandes Vieira, alderman of Maurice's Town, appeared in the great council, Count Maurice being present, where he told them, that he had been informed by certain Jews, how he and his father-in-law Beringel were suspected in Holland, of having sent letters by a son of the said Beringel to the King of Portugal, tending to the detriment of the state. He did not deny to have sent a letter by the said person to the King of Portugal, but containing no more than a recommendation of the said Beringel's person, to help him to some employment under the King : this he offered to prove by his copy, which being produced, there was found nothing material in it, but a congratulation to the King upon his accession to the crown, and a recommendation of the said Beringel ; Vieira further proposed, that he thought it absolutely necessary, for the safety of the estate, to have the Portuguese disarmed, as likewise the captains De Campo, with those under their jurisdiction, the negroes, Brazilians, mulatts, and Mamalukes.

There was also a letter sent by the council of Nineteen, dated 1st June 1642, to Count Maurice, containing in substance, that one John van North, who had served for fourteen months in the quality of a cadet in Brazil, had declared to them at Amsterdam, that he had been a servant in a sugar-mill belonging to John Fernandes Vieira, where, after a stay of two months, he was entreated by Francisco Beringel Labrador, to go with his son Antonio Dandrado Beringel, as an interpreter, to Holland, and from thence to Portugal ; which upon great promises he accepted of, and they set sail

on board the ship called the *Love* from Brazil for Zeeland, and afterwards from Ulissim men went to Lisbon. He said, that this Antonio Dandrado Beringel, after a familiar conversation of three weeks, had told him that he was sent with a letter signed by John Fernandes Vieira, Francisco Beringel, Bernardin Karvailho, John Biferro and Lewis Bras Biferro, in which they gave to understand to the King of Portugal, that they were well provided with men, money, and arms, for the reducing Brazil under his obedience. The council added, that the King of Portugal had made the said Beringel a captain for this piece of service, and that therefore they desired Count Maurice and the great council to keep a watchful eye over them, being sensible what an aversion the Portuguese did bear to the Dutch.

At the meeting of the great council of Brazil, 16th February 1643, Count Maurice assured them, that he had received intelligence, that some of the chiefest of the Portuguese had resolved to surprise our garrisons in the country, at Moribeca, St. Anthony, and some other places, and to put them to the sword, which was to be put in execution upon one of their saint's days, when they used to meet in considerable numbers. Those who had the chief management of this affair, had their dwelling-places in the Vargea, who had proposed to surprise likewise the Receif, not questioning that if they could make themselves masters of it, the other garrisons in the country would be easily reduced, and consequently the company not able to subsist long in Brazil, without soldiers and traffic.

Hereupon it was taken into deliberation, whether it were best to secure the heads of this rebellion immediately, or to delay it till a more convenient time, for fear of alarming the whole country by their imprisonment: the last was resolved upon, because they did not think themselves as yet sufficiently assured of their designs, and did not question, but that by the secret intelligence Count Maurice was to receive of their transactions, to prevent them. It was however judged adviseable to draw the garrisons out of the country into the Receif, which was strengthened with new pallisadoes, and the old wooden battery repaired; a ship was also ordered with several great chaloops, the first on the sea-side, the others in the river, to defend the avenues of the Receif with their cannon. There were likewise divers letters sent by private persons, some without names, to Count Maurice and the great council, confirming the traitorous designs of the Portuguese; among others, one Mr. Van Els sent a letter to Count Maurice, dated at Serinhaim the 20th of March 1643, importing, that he had it from sure hands, that a certain mulat, of the company of Augustin Hardoso, being asked by certain inhabitants of that Fregezie, what business they had thereabouts, had told them, that they had been to carry letters to some persons living near the Receif; adding, that in a short time they would see that place taken without any effusion of blood, either of the Dutch or Portuguese.

In December 1643, Don Michael de Kraso, Don Bastian Manduba de Sonho, and Don Antonio Ferdinandes, three ambassadors from the Count Sonho in Angola, arrived in the Receif, in the ship called the *Arms of Dort*; they had but one servant each, but brought along with them several negroes with golden collars, as a present to Count Maurice, besides a great number of other negroes for the company.

Being admitted to audience by Count Maurice and the great council, they desired, in the name of their masters, not to send any assistance to the King of Congo, whom they feared would attack them before long, notwithstanding they were at that time both engaged in a war against the Portuguese. They received for answer, that the council would write to Mr. Niewland, their director there, to interpose his authority and mediation, in order to maintain a correspondence, and remove all occasion of contest

test betwixt the King of Congo and their master, they being both confederates of the states: the said earl sent likewise a letter to Count Maurice, in which he desired leave to buy a chair, a cloak, some ensigns of war, some apparel, and such like things. The great council wrote also a letter, as well to the King of Congo, as to the Count of Sonho, exhorting them to peace, and sent them the following presents in the name of the company: — To the King, a long black velvet cloak, with silver galloons, a scarf edged with silver lace, a velvet coat, and a castor-hat with a silver hatband. — To the Count, a red velvet elbow-chair, with gold fringes, a large velvet cloak, with gold and silver galloons, a scarf with a gold and silver lace, a velvet coat, and a castor-hat with a gold and silver hatband.

They were entertained with all imaginable civility during their stay here: they were very skilful in playing with the backsword; in the management of which, they made most terrible postures and faces. They understood Latin very well, and made several learned harangues in the same.

The 13th of October 1644, a certain Jew called Gaspar Francisco de Kunha, with two others of the chief of the same fraternity, gave notice to the great council, that they had been credibly informed by some Jews, who conversed and kept frequent correspondence in the country, that the Portuguese were plotting against the Dutch Brazil, telling the council the reasons upon which they founded this suspicion. The council, after having returned thanks to these elders for their care, resolved to leave no stone unturned, to discover the designs of the Portuguese; and having received certain intelligence, that they expected some arms and ammunition to be brought them by sea, they ordered, the 12th of October 1644, the yacht called Nieuhouse, with a galiot and a chaloop, to cruize along the coast of Dutch Brazil, to observe what vessels did approach the shore.

The 11th of May 1644, Count Maurice left the Receif, in order to his return to Holland, after he had been eight years governor of the Dutch Brazil. All the citizens and chief inhabitants, both of the Receif and Maurice's Town, appeared in arms, making a lane from the old town to the water-gate, from whom, as he passed by, he took his leave with all imaginable demonstrations of kindness. At the gate he mounted on horse-back, and being accompanied by the great council, the counsellors of justice, and all the military officers, as far as Olinda, he there once more took his leave of them in particular, the Sieur Bullestraet remaining only with him, being deputed by the regency to conduct him on board the ships designed for his transportation. They did not set sail from the Red Land till the 22d of May, with a fleet of thirteen ships, on board of which were a good number of soldiers, leaving only eighteen companies for the defence of the Dutch Brazil. Mr. Bullestraet returned the 26th to the Receif.

On the 22d of April, not long before the departure of Count Maurice, the commission from the governors of the West India company, according to a resolution taken at their meeting the first of July 1642, concerning the government of Dutch Brazil, and dated the 22d of May 1643, was read in the great council, by which the members thereof were to have the administration of the government till further orders. Accordingly, Count Maurice having appointed a day to invest them with the administration of the government, he ordered (with the consent of the said council) an assembly to be called on the 6th of May, of the counsellors of justice, of the magistrates, the ecclesiastical council and ministers of Maurice's Town; of the commanders-in-chief, both by sea and land, the chief officers of the company, the officers of the militia, and the chief men among the Jews.

All these being at the appointed time met in the great hall of the Stadthuis, he told them, that since Their High and Mightinesses the States, His Highness the Prince of Orange, and the council of Nineteen, had been pleased to grant him leave, after a stay of eight years among them, in the quality of governor of the Dutch Brazil, to return into Holland, he had called them together, to return them thanks for the many services, each in his station, had done to the company; as likewise for the obedience, fidelity, and respect they had always shewn to his person; telling them, that from this minute he resigned the government into the hands of the great council, requiring and desiring them, in the name of the States, the Prince of Orange, and the council of Nineteen, to shew them the same obedience, fidelity, and respect, they had done before; whereupon Count Maurice having congratulated the council, and the rest there present done the same, he took his leave of them in the hall, and immediately after in the council-chamber, of the members of the great council, giving them most hearty thanks for their faithful council and assistance upon all occasions, and for the respect and deference they had always shewn to his person; telling them, that since this would be the last time of his appearing in their assembly, he had drawn up a memorial, which might serve them as a guide, for the better administration of the government; and that, if they thought it convenient, he should be ready to discourse with them, and enlarge further upon that subject. The members of the great council returned him their unfeigned thanks, wishing him a happy voyage, and good success in all his undertakings, and recommended themselves and the whole Dutch Brazil to his care hereafter. Before the breaking up of the assembly, it was debated in the presence of Count Maurice, which of the members should have the precedence there as president, or whether the same should be taken by turns, the same being not determined in their commission. After several arguments *pro* and *con*, it was agreed, that things should remain, in respect of this point, in the same condition as had been usual before, in the absence of Count Maurice, viz. for every one to keep his rank without any priority, till further orders from the council of Nineteen; to wit, first Mr. Dirk Hamel, then Mr. Bullestraet, Mr. Kodde Vander Burgh, &c.

The next thing the great council took in hand, was to inquire more narrowly into the designs of the Portuguese against the government; to effect which, it was resolved, in January 1644, to send Gilbert de Wit, counsellor of the court of justice, and Captain Dirk Hoogstraten, then commander-in-chief in the Cape of St. Austin, to Antonio Telles de Sylva, then governor of the Bahia, with the following instructions, dated the 15th of the same month; to compliment the governor (after the delivery of their credentials), in the name of the great council, with a sincere promise and assurance of friendship, and good neighbourly correspondence. After this, they were to represent to him, that many of the subjects of the Dutch Brazil, after having contracted considerable debts there, both with the company and other inhabitants, did retire into the Bahia; wherefore they desired, that for the promoting of justice, they would either detain those bankrupts in prison, or at least give timely notice of their coming thither, to the Dutch government, whereby their subjects might be enabled to prosecute them at law: but their real errand was to be instructed underhand in the following points:

1. What forces the Portuguese had at that time in the Bahia, and the other southern provinces.
2. What number of ships.
3. What number of ships were expected there out of Portugal.

4. How

4. How the negroes trade stood affected, and from what places they were brought thither.

5. Whether there was any commerce betwixt them and the inhabitants of Buenos Ayres.

6. In what condition their places were thereabouts; of all which they were to give the best account they were able to get, after their return to the great council; they were also charged by word of mouth, to make diligent enquiry who were the persons that underhand encouraged the so-much-feared revolt of the Portuguese in the Dutch Brazil, and what aid or assistance they were to have from them; and to desire the governor not to permit for the future, that such of the Dutch soldiers as deserted out of the Receif, and went by land to the Bahia, might from thence be transported into Portugal, but be stopped and sent back to the Receif.

These convoys arrived safely the 8th of February 1644, in the Bahia, and dropped their anchor, towards the evening, near the city of St. Salvador, and the castle of St. Antonio, where two officers came on board them, to enquire from whence they came, and by whom, and to whom they were sent, in order to give an account thereof to the governor, Antonio Telles de Sylva. The next following day they were complimented in the name of the governor, by Major Domingo Delgados, and Captain David Ventura, who told them that he intended to send his chaloop with the first opportunity to fetch them ashore. About three o'clock in the afternoon, the same officers, with three or four more, came with the chaloop to fetch them; and they were no sooner landed, but found several horses ready for them to mount upon, which they did, and were conducted up a high hill, all over covered with spectators, to the governor's palace. In the outward hall was a strong guard of soldiers; in the second, several ensigns and other inferior officers; in the third apartment they met with nothing but captains and lieutenants; and in the fourth, with colonels, general officers, some clergymen, and the governor himself; who, after having received them at the door, desired them to sit down next to him, upon chairs set for that purpose. The envoys then begun their harangue, in which they told him, that they were extremely glad to find him in good health at this time, when they were sent by the great council of the Dutch Brazil, to assure him of their good inclinations to maintain a good correspondence and friendship with him, and of their hearty wishes for His Majesty's, his own, and the government's prosperity; to preserve which, they were ready to contribute all that lay in their power. Then they told him, that they had several things to propose to him, when he should think convenient to receive them; the rest of the discourse run upon mutual compliments and news. After which, the envoys were again accompanied by the governor to the door of the apartment, where he ordered the before-mentioned Domingo Delgados and David Ventura, to conduct them to a large house, finely furnished, in Bishop's-street, and to entertain them at his charge; which, though the envoys refused, alledging it to be contrary to the intentions of their masters, yet were forced to accept of the same, and were very magnificently entertained at supper.

The next morning about eleven o'clock, they went again to the palace, and after having desired a second audience, were received in the same manner as before. Every one being ordered to withdraw, besides the secretary of the governor; the envoys made their propositions to the last, which they delivered to him in writing, in Portuguese, recommending the same to his consideration, as tending towards the maintaining a good and firm correspondence betwixt them. To which the governor gave this general

answer:

answer: "That he should always endeavour to cultivate a good understanding and correspondency with us, pursuant to the strict and reiterated orders he had received for that purpose from the King his master. And that concerning the propositions made by them to him, he would assemble his council of war and justice, and afterwards impart to them his answer." Then they were, by Domingo Delgados, reconducted to his own house, where they were very well entertained the same day at dinner, and the next by the governor himself.

The 17th they had another audience from the governor, who told them, in very obliging terms, "that he had consulted the matter with his council, and could give them no other answer but what was contained in this letter," which he delivered to them, and told them the contents thereof; whereupon our envoys told him, that since thereby a door was left open for rogues and vagabonds, they hoped he would at least order that the names of such as fled to the Bahia might be taken notice of, that the great council of the Dutch Brazil might not remain quite unsatisfied, whither they were fled; which he promised to do. After some further compliments, and mutual assurance of friendship, they parted for this time.

The 22d they took their leave of the bishop, and several other persons of note, unto whom they owed any obligations, and last of all of the governor himself, being conducted thither by many persons of quality and officers; they returned him thanks for the civilities and respect he had been pleased to shew them, wishing both him and His Portuguese Majesty a long and happy reign, and victory against the Castilians. The governor returned their compliments, and conducted them out of the room, ordering several negroes to attend them down the precipice of the hill, upon which the city is built, with chairs; but the envoys choosing rather to go on foot, they were, in the same chaloop they came in ashore, carried back under the sound of music on board their yacht. The Portuguese officers, after having taken their leave, returned to the city, and ours made the best of their way to the Receif, where they arrived safely not long after.

The letter delivered to them by the governor was as follows:

*The Governor's Letter.*

"Gilbert de Wit counsellor of your court of justice, and Dirk Hoogstraten commander-in-chief on the Cape of St. Austin, Your Lordships deputies, whom I received according to their quality and merits, have delivered your letter to me, and proposed such other matters as they were empowered to treat with me about. Though I endeavour nothing so much as to cultivate and maintain in the strictest manner, our neighbourly good correspondency, yet am I constrained at this time frankly to acknowledge, that it is not in my power to give your lordships any more satisfactory answer than this, in hopes that the many proofs you have had of my sincere , will serve as a plea with Your Lordships, to assure you, that I shall always be ready in all points depending on my government, to give the same proofs both of obedience and fidelity to the King my master, whose pleasure is, that the truce should be observed inviolably; and of my sincere intentions, and the esteem I have for Your Lordships friendship, desiring nothing more than that you furnish me with an opportunity of giving real demonstrations of my readiness to serve you; whom I recommend to the protection of God Almighty.

"Bahia, Feb. 14th, 1645.

(Signed)

ANTONIO TELLES DE SYLVA."  
Concerning

Concerning the six points mentioned in their secret instructions, they made the following report to the great council :

“ 1. That the Portuguese forces in those parts were generally esteemed to be less or more betwixt three and four thousand men, without the Brazilians and negroes. But that upon the most exact enquiry they could make, they had found them to be not above three thousand, including the Brazilians and negroes, and their garrisons both to the north and south, as far as Rio Janeiro. These consisted of five regiments, viz. three of Portuguese, under the Colonels John Darauge, Martin Soares, and N. N. the fourth of Brazilians, under a Brazilian colonel, Antonio Philippo Camarao, and the fifth of negroes, under the command of negro Henricio Dyas. These two last regiments, amounting both not to above three hundred men, were divided in the garrisons to the north, about Rio Real on our frontiers ; they being the scum and off-casts of all their territories, and consequently not to be quartered near the capital city, there having of late been some broils among them in the garrisons, whither officers were dispatched to compose them. The three Portuguese regiments, consisting of about two thousand seven hundred men, kept garrison in St. Salvador, and the circumjacent forts, except two companies, one of which was quartered about Rio Real, the other in the island Morro St. Paulo : and about one hundred and fifty more, which were disposed in the captainships of Os Ilheos, Porto Seguro, and Spirito Sancto ; so that the garrisons of St. Salvador and the circumjacent forts consisted of at least two thousand three hundred, each company consisting of one hundred men less or more, all chosen men and well clothed ; four companies mounted the guard every night, one at the palace, at each of the two gates one, and the fourth in the water-works without the city.

2. “ Of their naval strength they gave a very slender account, being more considerable in number than force, as consisting only in fifty small vessels and yachts, not in the least fitted for war ; neither could they observe the least show of preparations tending that way, their aim being only to protect their ships bound to the Portuguese coasts against the insults of the Castilian and Denmark privateers, and the Turkish rovers. It was, as they said, upon this account, that during our stay there, two stout Portuguese ships fit for war, manned with six hundred men, and provided with good store of ammunition, arrived in the Bahia, under the command of Salvador Correada-sa, with orders to go directly from thence to Rio de Janeiro, and to fetch all ships ready laden from thence to Bahia, from whence they were to convoy these as well as such other vessels as they found ready there, to the coast of Portugal ; for which reason also all the vessels which otherwise used to go according to their own conveniency, were ordered to stay for the said convoy. That news was brought by the said two ships, that the King of Portugal had forbid the building of caravels and other such like small vessels, instead of which they were to build ships of better defence against the insults of an enemy at sea. From whence the envoys said they supposed would arise this inconveniency to the Portuguese, that the freights and convoy-money paid for the commodities transported from Portugal to the Portuguese Brazil, and for the sugar transported from thence to Portugal, must increase, and consequently would not be able to sell the last at the same price the Dutch did, considering especially that they must be considerable losers both in their interest and time, where they were forced to tarry for their convoys, whereas they used formerly to make the best of their way home.

“ 3. They had observed, that though the inhabitants of the Bahia expected the coming of those ships at their first arrival, yet several vessels arrived there, both from the Portuguese coast and the islands, before the rest.

4. “ They

“ 4. They concluded the negro-trade to be very inconsiderable there, they having scarce ever heard it as much as mentioned, but because the price of a good negro did not at that time amount to above three hundred gilders, they supposed them pretty well stocked with them; those which were of late bought there being brought thither from Cape Verde and Arder. They farther reported, that when on Wednesday, being the 8th of February, they entered the Bahia, they met two ships of good bulk, carrying about twenty guns each, and well manned, going out, which upon enquiry were told them to be bound for Portugal, but could not learn to what harbour there, which, together with some other reasons, made them suspect they were intended another way, in which we found ourselves not deceived, when on the 22d of February, just as they were ready for their departure, they understood from the Mulat Juliana, and of two monks, that these two ships were sent with men to Angola, for the security of the inhabitants of Mafagao, who, being but small in number, were forely afraid to be set upon by the negroes of the country, and having desired the governor's assistance, who ordered those ships and the men to go in the night-time, and to endeavour to reach Mafagao unperceived by any, and without committing any hostilities against the Dutch. Whether and how far this might be true, time would shew, but they had all the reason in the world to believe, that it was upon their score of concealing this expedition, as well as some other matters from them, that immediately after their arrival (though they were not informed of it till near the time of their departure) that no Dutch or Germans should appear as much as in the sight of the envoys, much less discourse with them; which was observed with that strictness, that they really imagined there had been no Dutch there; but found afterwards that they had been all (how many they knew not) carried on board the Portuguese vessels, to prevent their keeping any correspondence with us and our ship's crew; to which end also, six centinels were placed in two boats lying near our yacht, during the time of our stay here, under pretence of protecting our vessel, but in effect to prevent any body from coming on board us, pursuant to the orders of the governor.

“ 5. That the inhabitants of the Bahia and the other Portuguese captainships, had not the least commerce at this time with those of Buenos Ayres. That immediately after the revolution in Portugal, those of Bahia had attempted to go thither, but were treated as enemies by them; so that it was their opinion, the place would either soon, or was already totally ruined for want of commerce; all their livelihood consisting in the traffic from the coast of Brazil thither; which falling away, no silver could be transported thither from Peru; it being not probable that the Spaniards would run the hazard of passing along an enemy's coast, when they had a safer way to transport their treasures from the West Indies.

“ 6. That they could not get the least certain information concerning the designs carried on betwixt some of the inhabitants of the Bahia and those of the Dutch Brazil against the last; besides which they gave them a general relation of what they had been able to learn, concerning the condition of the city of St. Salvador, its inhabitants, governor, and some other matters relating to the country thereabouts.”

The rumours which in 1640 were noised about concerning the treacherous designs of the Portuguese inhabitants against us, being for that time vanished into smoke, the same was revived, and their designs began to be discovered in February 1645, viz. That confiding in the promised succours from Bahia, they intended to rise in arms against us, looking upon this juncture as the most favourable for their purpose, since Count Maurice with the greatest part of our fleet, and a good number of soldiers, were returned to Holland, from whence no fresh supplies were come of late into Brazil. The great council

council not being ignorant of this, were indefatigable in their care, to leave no stone unturned to find out the ring-leaders of this rebellion, so as to charge them effectually with this crime, and find out sufficient cause for their commitment. They sent out several of their officers into the country as spies, to sound the inclinations of the people, and whether they could meet with any one who incited the rest to an insurrection. The like he did on the other side of the river of St. Francis, and in Kamaron's camp, whither they had sent certain persons to investigate their designs, and to learn what preparations they made for war, and whether they were intended against Pernambuco, but were not able to find out any thing, upon which they could make any sure account. Being nevertheless sensible that those forewarnings were not altogether groundless, and knowing the Portuguese to be of so haughty a temper (besides the difference in religion) that they would scarce let any opportunity slip of withdrawing themselves from the obedience of their conquerors; they writ the 13th of February 1645 the following letter, concerning the designs of the Portuguese to the council of Nineteen:

*A Letter from the Great Council to the West India Company.*

" Most Noble and Right Honourable,

" During the government of His Excellency Count Maurice, there were already several of the inhabitants of this state entered into secret cabals to rise in mutiny against us, in hopes of assistance from the Bahia; their business was to insinuate into those that were well affected to them, after their good success in Maranhon, that our forces being considerably weakened by the strong detachments sent to the garrisons of Angola, St. Thomas, and others, a fair opportunity was offered them, to withdraw themselves from our obedience, and to enjoy their former liberty under their own King. They were not a little encouraged in their design, imagining the same might be carried on without any great difficulty, when they found that of late we had received no supplies either of meat or other provisions, or of soldiers, from Holland, whereby the store-houses of the company here being exhausted, the garrisons of the forts were forced to be supplied from time to time with farinha and fresh meats out of the country; they judged, if they could once be masters in the field, they must of necessity fall into their hands, as it happened in 1640 to the Spanish garrisons in Portugal, who for the same reason were not in a condition to hold out against the Portuguese; being, besides that, sensible that, unless we would too much weaken our garrisons, we had no sufficient number of troops left to appear formidable in the field. These and other such like insinuations have been frequently spread among the Portuguese, by those who, finding themselves most uneasy under our government, hoped for a change of their affairs by changing their masters; which, however, wrought no considerable effect, as long as His Excellency continued in the government, partly because we, being forewarned of their designs, kept a watchful eye over all their actions, and partly because our sea and land forces being much more considerable at that time than they are now, they had but little prospect of succeeding in their enterprise, which therefore they judged most convenient to defer till after His Excellency's departure, which as it was sufficiently known beforehand, so they were sensible that thereby our forces both by sea and land must be considerably weakened, and consequently would furnish them with a fairer opportunity of putting their so long rejected design in execution; the more, because that many of the Portuguese who, relying hitherto upon the authority of Count Maurice, as the only means to keep the soldiers in awe, being now put in fear of the executions and exorbi-

tancies

tancies likely to be committed by the covetous officers and rapacious soldiers, would be forced to join with them against us. After the departure of His Excellency for Holland, those cabals have instead of divine things increased every day; they have been very diligent in getting information concerning the strength of all our garrisons, with an intent to carry on their designs before we could be reinforced with supplies of men and provisions from Holland; to effect which they have, by messengers sent to Bahia, solicited for succours of men and arms, of which, as it seems, they have no small hopes. There is great reason to believe that the journey of Andrew Vidal from the Bahia hither, in August last, undertaken under pretence of taking his leave before his return to Portugal, in order to serve the King there, was founded upon no other motive than to inform himself most narrowly concerning the true state of affairs here, in order to give a verbal account thereof in the Bahia, and afterwards in Portugal; as likewise to sound the inclinations of the inhabitants, and to animate such as he found well disposed for his interest, with hopes of speedy succours from the Bahia: we having since received secret intelligence that he has been present at several of these cabals. But though they were greatly encouraged with these hopes of good success, by reason of the diminution of our forces, and scarcity of provisions, they were not very forward in venturing upon this enterprize, being sensible that their design having taken vent, we made all necessary preparations against them; besides that many of the Portuguese inhabitants being beyond their expectation well satisfied with the government of the great council, did rather chuse to live quietly and securely, than to engage in so dangerous an enterprize. So that things remained without any considerable alteration at present; and, as matters stand now, we are not able to find out sufficient cause to satisfy ourselves whether they proceed in the same design. Their chief design, as we are credibly informed, was laid against the Receif, which they intended to surprize, upon a certain day appointed for the sale of negroes, when the inhabitants of the country flocking thither in great numbers, they did not doubt but, with the assistance of our own negroes, who are for the most part papists, to make themselves masters of the place, not questioning but if this succeeded, the rest would soon be forced to yield. But in this they were prevented by the strong guards we took care to post in the Receif on those fair-days. The chief ring-leaders, as they are specified to us, are John Fernandes Vieira, and his father-in-law Francisco Beringel, with several others, whom we would have committed to prison, if we could have had more certain information against them; but though we left no stone unturned to find out the truth, yet we could not meet with sufficient motives to induce us either to imprison them, or to proceed again to the general disarming of the inhabitants, we having received certain intelligence, that so soon as we should attempt it, we must expect no less than a general insurrection, which, considering our own magazines and storehouses were so ill provided, and no sufficient force could be drawn out of the garrison to secure the open country, would have drawn after it very ill consequences for our nation, especially those living at some distance from our forts, who thereby, as we had reason to fear, might have been exposed to the danger of being massacred by the Portuguese. It is evident, from the information given to your lordships in Holland, and transmitted to us, that the subjects of the King of Portugal themselves are encouraged and animated against us; wherefore it will be absolutely necessary to be very cautious, and to hasten the supplies we so often have requested at your hands. Upon the first information we received, that toward the south of the Receif the Portuguese intended to land some men or arms, we sent the 13th of October a yacht, the Enckhuyfen, with another galliot and chaloop, to cruise thereabouts, but they returned after some time without being able to discover any such thing. The next intelligence we had was, that

a fleet

a fleet was equipping in the Bahia, to transport some forces for the assistance of our rebellious subjects; to find out the bottom of this design, we thought we could pitch upon no better expedient than to send thither Mr. Gilbert de Witt and Dirk Hoogstraten with certain instructions, of which we have inclosed the copy, who set sail the 25th of the last month. Being further informed that a certain Portuguese captain, with an ensign and three soldiers, have been lately dispatched from the Bahia to our captainships to endeavour to stir up our subjects to rebellion, with assurance of succours from thence: we have employed all necessary means to find them out and get them into our hands. We shall not be wanting in any thing which, according as occasion presents, may contribute to the preservation of this state.

“ Receif, 13th February 1645.”

The 4th, the great council were informed, by letter from Isaac Rafiere and Captain Blewbeck, written at Parayba, that a rumour was spread thereabouts that Kamaron, chief commander of the Brazilians in the Bahia, was on his march from Sertao to Siara to join with the Brazilians inhabiting thereabouts, to attack with their united forces the inhabitants of the captainship of Rio Grande. Whereupon the council sent orders to Hans Vogel, governor of Seregippo del Rey, to get intelligence and send them speedy word whether Kamaron with his camp were still in Rio Real; and if not, whither he had taken his march, or whither he intended to take it. They also sent word to the inhabitants of Parayba that they should be very diligent in enquiring after the cause of this rumour, and send them intelligence accordingly.

The 15th of May they received an answer from Hans Vogel, dated the 25th of April at Seregippo del Rey, wherein he told them, that pursuant to their orders he had sent a serjeant with some soldiers to Kamaron's head-quarters, about ten leagues from Seregippo del Rey, under pretence of looking for some deserters; who, after their return, reported that his forces, consisting of two hundred Portuguese and one thousand two hundred Brazilians, were still in the same place, busied for the most part in cultivating some plantations, Kamaron himself being then in the Bahia, to assist at the solemnity of their Easter, from whence they conjectured that the rumour concerning his march was only a fiction. But two days after the same rumour was renewed by two passengers coming from Rio St. Francisco, and being landed by one John Hoen, a master of a vessel near Kindelaria; but upon a more strict inquiry made by the council, the said master of the vessel declared, that on the eighth of the same month, when he left Rio St. Francisco, there was no news of Kamaron's march.

The 30th of May 1645, a letter without a name was delivered to the great council by one Abraham Markado, a Jew, subscribed only “ Plus ultra.” This letter being translated out of the Portuguese the same night, the contents whereof were, that three unknown persons gave them notice that a good body of troops were come from Rio Real into Parayba, with an intention to join with a discontented party there, and to surprize the Dutch forts; with advice to seize upon the person of John Fernandes Vieira their chief ring-leader.

The letter is as follows:

*A Letter of Intelligence to the Council.*

“ We stand amazed you are so secure, when it is reported that the Matta of Parayba is full of soldiers, come thither lately from Rio Real, who consisting of a good number

of negroes, mulats, and Portuguese, with Kamaron at the head of them, began their march in the month of March, expecting now to be joined by other troops, which hitherto were stopped by the overflowing of the rivers. Their aim is to encourage the inhabitants to take up arms, which done, they expect considerable succours from the Bahia, both by sea and land, wherewith they pretend to block you up in the Receif, intending to fix their camp either at Olinda, or in the Vergea, and quarter the soldiers in the Fregeſies thereabouts. They boast that their forces are already considerably increased by those who are indebted to the company, and other vagabonds, and threaten to massacre all such of your subjects as refuse to join with them. A certain person of note and reputation belonging to the same camp, has given us this information, in order to communicate it to Your Lordships, to be upon your guard, which we do accordingly by these presents. The same person told us, that John Fernandes Vieira was the chief ring-leader of this insurrection, who maintains the rebellious crew in the Matta, as they meet together, till a certain time appointed for their rendezvous, when they are with their joint forces to attack all the Dutch forts and out-guards at once. We were also told, that the said Vieira does not sleep in his house, and is always upon his guard; to try which, you have no more to do than to send some to take him, with his servants and factors; which if you could do they would be all amazed, and make an open confession, which may be done without the least hazard; for if you miscarry in the attempt, it will nevertheless not redound to your disadvantage. We conjure Your Lordships to take care of this poor nation, for fear they should be forced to join with the rebels against you. We judge it therefore absolutely necessary to undertake the business without delay, with all imaginable secrecy; for if they find themselves discovered, they will begin the game immediately; so that strong guards ought to be put in the outworks, and in the harbours of Kandelaria and the Receif. We advise Your Lordships to oblige the inhabitants forthwith to surrender their arms, to order all the masters of the sugar-mills, with their planters, to appear in the Receif, especially those of the Fregeſies of Vergea, Garassu, St. Lorenzo, St. Amaro, Moribeca, De Cabo, Pojuka, and Serinham, with assurance that they shall not be molested for any debts there; and when they are come, to detain them till they see what is further to be done, under pretence of securing them against the attempts of the rebels in the country, by which means you will both secure the government, and oblige many private persons. The same method ought to be used with those of Parayba, where they may be detained in the fort, as well as those of Porto Calvo in that place. Thus if you can get the chiefest into your hands, the design will dwindle away to nothing. We beseech you not to send away any more soldiers before you have made a full discovery of the rebellion, and provide your forts with good garrisons; whither we would also have all the Dutch inhabitants to retire for fear of being massacred. We three being faithful subjects of Your Lordships, have now satisfied our consciences in proposing your remedy, which consists in the taking of Vieira, which must be undertaken with great secrecy and foresight, he being, as it is said, continually upon his guard. Your Lordships will be sensible without our advice how much it concerns them, not to divulge to any, from whom they have received this information; and we assure you, that we will not fail to give further intelligence of what we are able to learn by way of letters; and one time or other, we shall make no difficulty to let you know, who these three faithful subjects are. If we had been present, we could have declared no more than we have done in this letter. Your Lordships must take effectual care against their attempts without delay, the approaching feast being the time appointing for the putting it in execution. We have sent you immediate notice after it came to our knowledge: we advise you likewise to seize upon Francisco Beringel, Vieira's father-

father-in-law, and Antonio Kavalkanti; and in short, all the chiefest of the Vergeas, and other places.

(Signed) "A. Verdade.  
"Plus Ultra."

Hereupon the great council called Paul de Linge, president of the council of justice, Vice-admiral Cornelius Lichthart, and Lieutenant-colonel Garstman, into their assembly, to consult unanimously what were best to be done at this juncture, for the preservation of the Dutch Brazil; when by this, as well as several other letters and intelligences, they were forewarned of the approaching danger; and notwithstanding they were much in doubt, whether they ought to make any certain account upon a letter written without a name; yet considering all the circumstances of this, as well as several other informations, it was judged absolutely necessary to provide for the safety of the Dutch Brazil, against any attempts of an enemy.

1. By providing all the forts with meal for two months.
2. By giving immediate notice to all commanders of forts to be constantly upon their guard.
3. To write to John Listry, chief commander of the Brazilians, to keep his people in readiness with their arms in the villages, to be ready to march upon the first orders from the council, we being not in a condition to take the field without them.
4. To send abroad their spies in all corners, even into the woods, to get intelligence whereabouts the enemy's troops are, and to give timely notice of what they are able to learn to the council.
5. It was agreed, to summon John Fernandes Vieira, the chief ring-leader of the intended rebellion, and his securities, Francisco Beringel, Vieira's father-in-law, and Bernardin Karvalho, unto the Recife, under pretence of making a second agreement with him, which he earnestly desired; by which means they should secure his person, know the whole bottom of the Portuguese design, and consequently be the better able to prevent it. A certain broker, called Koin, who solicited this agreement for Vieira, was prevailed upon to undertake this task, which he might do without the least suspicion; but the Whitsuntide holidays put some stop to it for the present. With the same care the great council employed all possible means to get the other persons of the Vergea, suspected to have a hand in this rebellious design, into their hands, under some pretence or other, they being not likely to be taken by force, because they did not lodge in their mills and houses in the night-time, and by day were so strictly upon their guard, that they could not possibly be surprized.

The 31st of May, Vice-admiral Lichthart, and Henry Haus, a lieutenant, offered to undertake the delivering of John Fernandes Vieira to the council, which they intended to effect, under pretence of giving him a visit, and going a fishing with him in the lake Lewis Bras Biserra.

The 9th of July the great council received advice by a letter from Mr. Koin, governor of Rio St. Francisco, dated the 1st of June, that Kamaron, with a small body, was passed the river St. Francis; therefore he desired some assistance of men, with suitable ammunition.

The same was confirmed by another letter, dated the 27th of June, with advice, that as yet no enemy had appeared within sight of the fort.

Frequent intelligence being likewise sent to the council, that in the Matta of St. Lawrence, and some other distant places, considerable numbers of soldiers from the Bahia, of mulats and negroes, were gathering in a body, they sent several small bodies thither, under

under command of such as were well acquainted with that country, who all unanimously reported, that they could meet with no soldiers, mulats, or any other vagabonds thereabouts.

The 12th of June, the director Moucheron sent further advice, that he had been credibly informed, by letters dated the 8th of the same month, from Rio St. Francisco, that Kamaron and Henrico Dias, with six companies of Brazilians, mulats, and negroes, were passed the said river; and that just as he was concluding his letter, two inhabitants of the Algoas had given him to understand, that some of them had been at their houses for some meal; the copies of which letters he sent to the council, who did now not in the least question, but that their design was upon the Dutch Brazil, especially since they were forewarned by several letters from St. Antonio, that the inhabitants thereabouts seemed to prepare for a revolt.

The council finding their project of taking Vieira by craft, not to succeed, because he and the securities of his father-in-law, Francisco Beringel, and Bernardin Karvalho, could not be cajoled into the Receif, under pretence of renewing their former contract, and looking upon him as the chief ring-leader of this revolt, they ordered Joachim Denniger, a lieutenant, with a good number of soldiers, to the mill and house of the said John Fernandes Vieira, to bring his person from thence to the Receif. Accordingly Denniger advanced with his soldiers towards the evening near the mills, which he surrounded, and about midnight unexpectedly entered both the house and mills, making a most strict search throughout all the rooms and corners, but to no purpose. In the morning he withdrew at some distance, but returned the next night, when, after having made another search, but in vain, he was informed by one of his Turkish slaves, and some negroes, that neither Vieira, nor his father-in-law Beringel, had slept in their houses these last three weeks; that sometimes they came thither on horseback, but after a very short stay went their ways again. Denniger likewise searched the houses of Antonio Kavalkanti and Antonio Biserra, but to as little purpose as those of the former, being informed by their negroes, that they had absconded for some weeks before.

In the mean-while, the council sent divers parties abroad, under the command of Hans Catner, Slodiniski, and Cunraed Hilt, all which, after their return, agreed in this, that there were no enemies there as yet, especially not in the Matta, where they met with nobody but those that were employed in manuring the grounds.

The great council finding themselves altogether disappointed in their hopes of taking Vieira, resolved to secure, immediately, the persons of Francisco Beringel, Vieira's father-in-law, Bernardin Karvalho, and his brother Sebastian Karvalho, Lewis Bas, Amaro Lopez, and John Pessoa, being persons suspected to have a hand in the conspiracy, inhabiting the Vergea. In the more distant provinces were ordered to be seized,

In St. Amaro, Antonio de Bulhous.

In St. Antonio, Amador d'Arouja; Pedro Marinho; Antonio del Rasto.

In Pojuka, Korneo de Morais; Father Frey Lewis; and Francisco Dias del Gado.

In Serinham, John Albuquerque, son-in-law of Pero Lopez de Vera.

In Porto Calvo, Rodrigues de Barras Pimentel.

In Iguaraka, John Pimenta.

In Itamarika, Father Lawrence d'Alkunha.

And in Rio Grande, John Lestan Navarro.

But it being most of all to be feared that the inhabitants of Parayba, who were much indebted, would revolt before all the rest, Mr. Paul de Linge was sent thither immediately in the quality of director, with full power to act both in that and the captainship of Rio Grande, as he should find it most expedient for the company, with ex-

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press orders to press one hundred men out of the ships, with proportionable provisions, immediately after his arrival there, which were to be disposed in the fort of St. Margaret, both for its defence, and to keep the inhabitants in due obedience.

And, considering that the scarcity of provisions was one of the main obstacles to be surmounted on our side, which, as the case then stood, would more and more increase, unless we could remain masters of the field, from whence we drew most of our provisions, and to over-awe the discontented inhabitants, it was judged requisite to form a small camp near St. Lawrence; and, accordingly, the two lieutenants Huykquesloot and Hamel, were ordered thither with thirty-five men each, the first from Iguaraka, the last from Moribeca, as likewise Captain Wiltshut, with fifty men more from the Receif; John Listry, commander-in-chief of the Brazilians, was likewise ordered to join with them with all possible speed, three hundred Brazilians under their own commanders.

The same day, being the 12th, after a view was taken of the fortifications of Moribeca town, the same were ordered to be repaired; and news being brought, that John Fernandes Vieira had been seen in his mill the same night, the council endeavoured, with all possible care, to have secured his person, but in vain; it being certain, that (according to the depositions made by his steward of the mill, called St. John, before the public notary Indiik, in the Receif, 21st January 1647), near six months before the breaking out of this insurrection, he had never slept one night in his house: and whenever he happened to be there in the day-time, he remained for the most part in a turret on the top of the house, from whence he could have a prospect at a great distance; if his business called him below, he put somebody else there to keep the watch; who, if they saw but two or three persons come that way, gave immediate notice thereof to him; and if any Dutch in a body were discovered, he retired instantly into the adjacent woods. He had likewise placed some negroes at a certain distance from the house, who were to give notice of the approach of any unknown persons that way.

The 13th, Sebastian Karvalho, and Antonio de Bulhous, were brought in prisoners to the Receif, the rest, who were sensible of their guilt, having escaped their hands; the first being examined the same night by the assessor of the court of justice, Mr. Walbeek, concerning the intended conspiracy, gave him the following account by word of mouth:—

### *His Confession.*

“ That he was one of those three who, a few days ago, had, by way of letter, given an account of an intended conspiracy in the Vergea, to the great council, the ring-leader thereof being John Fernandes Vieira, who, with the rest of his Portuguese accomplices, relied upon the succours promised them from the Bahia; with what he had judged most proper for obviating the same. That the whole design of this conspiracy was laid open to him by means of a certain writing, in form of an association, which was delivered to him by a Portuguese servant of the said Vieira, together with a letter, in which he desired him to subscribe the same, there being no more than two who had signed it at that time, viz. John Fernandes Vieira, and Lewis da Costa Sepulveda. The contents of this association were, that they promised to rise in arms against this state, and to sacrifice their lives and estates for the recovery of the Dutch Brazil under the obedience of the King of Portugal. That indeed he had signed the said association, but had given immediate notice thereof to Fernando Vale and a third person; and that he, together with Mr. Vale, had caused the before-mentioned letter, directed to the great council,

to be delivered to Merkado the physician. That the insurrection was intended to extend all over Dutch Brazil, but that the inhabitants of the captainship of Parayba were most to be feared, as being most indebted, and, consequently, bearing an ill-will to our government. That their main design was to surprise one of our forts, on or near the sea-side, whereby they might secure themselves a place to receive succours from the Bahia; from whence they expected to be assisted with two men of war, and three or four frigates. That he had signed this association barely out of fear of Vieira, who had threatened those that should refuse with no less than death, and had caused several to be murdered upon that account."

His confession agreeing in all points with what Fernando Vale had deposed before, and being all that time sorely afflicted with the gravel, he was dispensed with from any further examination.

The council being by this deposition of Karvalho fully convinced of the treachery of Vieira and his adherents, it was resolved to attempt once more the taking of the said Vieira, if perhaps he might as yet lurk somewhere or other near the Receif, and of his factor Mor Manuel de Sousa, engaged in the same design; as likewise of Antonio Bezerra and Amaro Lopez, both inhabitants of the Vergea, but in vain. Those who were sent upon that errand bringing back no other satisfaction, than that they were not to be met with thereabouts; and that besides that, Antonio and Manuel Kavalkanti, Antonio Bezerra, John Pessô, and Cosmo de Kraso, were the same day retired out of the Vergea to the Matta. The same day Captain Wiltshut was ordered to seize the public notary, Caspar Pereira, dwelling in St. Lawrence, who was supposed to have drawn the before-mentioned association; and it was resolved to send a pardon to Antonio Kavalkanti and John Pais Kaeral, who having a great family at home, might thereby be prevailed upon to quit the party of the rebels, whereby we should both weaken that of the enemy, and get a further insight into their designs. Antonio de Bulhous being examined at the same time, ingenuously confessed that he had not the least knowledge of the conspiracy; Sebastian Karvalho being, notwithstanding his former confession, detained prisoner upon suspicion till the 4th of August, was, at his request, dismissed by the great council, after having given sufficient proof that he was one of the three who wrote the letter concerning the intended conspiracy to the council.

The 14th of June, orders were given to all the inhabitants of the Receif, and those living upon the back of the river, to surround their dwelling-places with pallisades, under forfeiture of two hundred guilders. And to render the companies the more complete, and to expose our men to as little danger as might be of being surprised by the enemy, all the safeguards were commanded to be withdrawn by Mr. Haus, near the Receif, and in Serinham by Captain Fallo, who was likewise ordered to remove the garrison of Huna to another place of more strength. The better to supply the scarcity of provisions in the forts, which, for want thereof, might be in danger of falling into the enemy's hands, orders were dispatched to the chief commanders, to seize upon what quantity of farinha (or meal) they stood in need of for the use of their respective garrisons among the inhabitants of the country, which they were to be paid for by the commissaries of the company. It was also thought necessary, that for the greater security of Maurice's Town, the ditches of the fort Ernestus should be made larger, as likewise the Quinqueregular fort, which was put in execution by Haus, as Vice-admiral Lichthart took care to have two spy-ships posted, one betwixt the Quinquangular fort and the fort Bruin, the other beyond Baretta, to prevent any surprise on that side at low-tide; it was also resolved not to let any ships or boats go out of the Receif without

a pass from the great council. The major of the city militia was ordered to keep the rest of his officers with the soldiery in readiness against the 17th, to pass the review, the same day being also appointed to the garrison for that purpose; several new commanders were also chosen for the militia, instead of those that were ready to return into Holland. The same day Paul Linge set out on his journey into Parayba, being furnished with fifteen hundred soldiers for necessary occasions: and Bernardino Karvalho, who had absconded for some time, had, at his request, leave granted him to come to the Receif to answer for himself.

The 15th, John Pessoa, master of the sugar-mill Pantelio, one of those that were ordered to be secured, desired leave also, in a letter to the council, to appear before them, his flight being occasioned not by his guilt, but only fear, which was granted him, as well as the request of Father Lawrence Alkunha, upon the same account.

On the 16th, early in the morning, we received secret intelligence, that Andrew Vidal, at the head of one thousand Portuguese, and Kamaron with d'Indeos Rondelas, and Henry Dias, with a body of armed negroes, had posted themselves above St. Anthony, near the sugar-mill Topekura. The same day John Karnero de Maris, and Francisco Dias del Gado, both masters of sugar-mills in the district of Pojuka, ordered to be apprehended, were brought prisoners to the Receif, and Amador da Rouje, and Pero Marinha Falkao, inhabitants of St. Anthony, who had hitherto absconded, did ask permission to come to the Receif to answer for themselves, which was easily granted.

It was then taken into deliberation by the great council, whether, according to the last intelligences received of the enemy's designs, it were not most expedient to remove our small camp from St. Lawrence to Moribeca, which, after some debates, was agreed upon accordingly, thereby to secure the passage of the river Sangea, and consequently to remain masters of the country as far as the Cape of St. Austin, from whence both the camp and the Receif might conveniently be supplied, both with farinha and cattle; whereas on the contrary, if the enemy should be possessed of it, he might (as had been done in the former war) cut off all supplies coming from the south to the Receif.

Pursuant to this resolution, orders were sent to Captain Wiltchut to march immediately to Moribeca, to expect there the coming of the Brazilians, and some further succours: in the meanwhile, to post himself in the church, and to fortify the same against any sudden attack: and the aldermen of Maurice's Town were ordered to buy up the necessary provisions, both of farinha and cattle, about Moribeca, for their use. A proclamation was also issued, commanding all the inhabitants of Serinham, Pojuka, St. Antonio, and Moribeca, without any exception, to repair well armed, both horse and foot, with all possible speed to St. Antonio, there to list themselves for the defence of the open country, under the command of Colonel Gaspar Vander Ley, and Lieutenant-colonel John Heck: those that were not able to maintain themselves at their own charge, being to receive their provision from the company, like other soldiers: the said colonel and lieutenant-colonel offering at the same time, to furnish fifteen hundred Alqueras or measures of farinha, for the use of our garrisons, for ready money.

The same day the great council received a letter from Antonio Kavalkanti (unto whom they had lately sent his pardon), in which he protested, that neither he nor the rest of the inhabitants of the Vergea were concerned in any cabals against the state, their flight being occasioned only by fear of being imprisoned upon suspicion, raised against

against them by their enemies. The answer of the council was to this effect, "That if he knew himself innocent, he should return to his mill, this being the only means to recover his former reputation."

The great council having great reason to suspect, that Kamaron would endeavour to bring the Brazilians under their jurisdiction over to his party, resolved, in order to secure them in their interest, to treat with Listry, their commander-in-chief, to persuade them, to send their wives and children into the Isle of Tamarika, under pretence of securing them against any attempts of the enemy, to which they might in all probability be exposed in the open villages; but in effect, to keep them as pledges of their fidelity.

The same day the council received secret intelligence from Antonio d'Olivera, that the succours sent to the rebels from the Bahia, consisted in a considerable number of Portuguese, under the command of the brother of Kavalkanti; of four hundred Brazilians, under the command of Kamaron; three hundred Indeos Rondelas from Sertoa; and fifty negroes, under command of Henry Dias.

On the same 16th of June, Mr. Sloteniski, ensign of the guards, was sent abroad to be at the campaign, with eleven fire-locks, and twelve Brazilians, who, returning the 24th of June, gave the following account to the great council: That he took his way from the Receif directly to St. Lawrence, and from thence directly to the village of St. Michael; where being joined by his Brazilians, he marched through St. Francisco to Kafura, from thence to Geyta, and so further through the Matta to St. Sebastian, where all the inhabitants had left their houses. At St. Sebastian he passed the river Topikura, and coming to John Fernandes Vieira's park, met there with good able horses. The negroes told him, they had orders from their master to fly from before the Dutch, but to furnish the Portuguese with what they desired. From thence he marched to Antonio, and in his way thither did light upon a house belonging likewise to John Fernandes Vieira, where he found about fifty or sixty sheep, with good store of poultry, intended for the use of the sick belonging to those rebels, or those come to their assistance from the Bahia. They fore-warned him not to advance too far, he being likely to meet with some troops in the park belonging to the fathers of St. Bento; but coming thither, found both the Portuguese and negroes fled. From thence he marched to a house belonging to Michael Fernandes, who above three months before had been ordered by John Fernandes Vieira, to provide a sufficient quantity of farinha for the use of the succours expected from the Bahia; which he lately had transported from thence to Pedro de Alkunha, where was the rendezvous of two companies of the rebellious inhabitants, where the said Michael expected a good store of cattle, bought by Vieira for their use, according to the information of a negro, brought by Sloteniski to the Receif. Near the park of Don Pedro d'Alkunha, he met with the same mulat who had shot Captain Waldeck, and with two Hollanders who had committed murder, and were never pardoned. John Fernandes Vieira had promised to be with them against Midsummer-day. From thence Sloteniski marched directly to Una, and so further to St. Luce, but met with nobody there except one monk, and so returned to the Receif.

On the 17th of June it was resolved by the great council, with the consent of the council of justice, to issue a proclamation for a general pardon, except some few of the ring-leaders of the rebellion. The proclamation was as follows:

*A Proclamation for a general Pardon.*

" The great council of Brazil makes known to every body whom it may concern, that they being sensible, to their grief, how many of their subjects, having been misled by some of the ring-leaders of the rebellion, have left their mills, wives and children for fear, as has been insinuated to them, of being disturbed, plundered, and killed by our straggling parties: we being willing to provide against it, and to contribute as much as in us lies, to the prosperity of our subjects, and their estates, have thought fit to publish their intention, to be, to defend and protect the inhabitants of the open country, against all evil-intentioned persons to the utmost of their power. And to reduce those who have left their habitations, to obedience, and prevent their utter destruction, we promise our pardon to all such as shall within five days after sight of this our proclamation, make their personal appearance in the Receif, not excepting those who have been actually engaged in the said rebellion (unless they are among the number of the chief ring-leaders), provided they leave the rebellious party, and return to their former obedience; and that they shall enjoy the quiet possession of their mills and lands as before, under our protection; under condition however, that they shall be obliged to take a new oath of allegiance to the state. Those on the contrary, who shall persist in their rebellion, or shall assist the rebels under what pretence soever, are hereby declared enemies of the state, who have forfeited their lives and estates, whose persons and estates shall be liable to be prosecuted with fire and sword," &c.

This proclamation being immediately translated into the Portuguese tongue, was sent the next morning to St. Antonio and the Vergea to be published there; several copies were also distributed among the friars, in order to publish them from the pulpits, and cause them to be affixed to the church-doors.

The 18th, good store of provision and ammunition was sent to the fort Keulen and Rio Grande, and the garrisons of both these places forewarned to keep upon their guard. At the same time the proclamation of pardon was sent thither to be published; and Antonio Parayba, chief of the Brazilians in those parts, was summoned to keep his Brazilians in readiness with their arms, whenever they should be commanded to give proofs of their fidelity to the company.

The 19th of June, two inhabitants of Porto Calvo, that were landed but the same morning in a small boat on the Receif, brought news to the great council, that Kameron, at the head of the Brazilians, and Henry Dias, with his armed negroes, consisting in seven companies, had posted themselves in the Alegoas, near the sugar-mill Velho; that their number was increased since to four or five thousand men, by the conjunction of those who were passed the river St. Francisco through the Matta, and that they had begun to commit open hostilities; so that now the council had not the least reason to doubt any further of the design of the Portuguese. The commander of Porto Calvo sent word much to the same purpose, and that he prepared for a vigorous defence. The first effects of this insurrection broke out in the district of Pojuka, and considering that our whole force there consisted only in thirty men, under Jacob Flemming, a lieutenant, orders were sent him to retreat to St. Antonio, there to defend themselves with their joint forces. The first beginning of hostilities was made by those of the Pojuka, by seizing upon two boats, all the passengers of which they took prisoner, and slew them afterwards, except one seaman, who had the good fortune to escape. This done, the inhabitants both of the village and the open country chose for their head Tabatinga Amador d'Arravio, whereby they cut off our communication with the Cape Austin by

land, and all about to the south, besides that, the fort on the said cape could not, but with great difficulty, be supplied with water from the river.

The 20th of June, a Brazilian arrived very early in the morning in the Receif; his errand to the council was, that he being sent by John Blaar, from Porto Calvo, with letters to the great council, was set upon by those of Pojuka, near Kamboa, who took from him the said letters, and killed his companion. For the rest he told them, that Kamaron was posted in the district of Porto Calvo, and that Captain John Blaar was in the fort. A council being called, to consider of the best means to secure the Dutch Brazil against any attempts of the enemy, the first thing that fell under debate was, whether, according to the general advice of those of the inhabitants, who wished well to our government, it were not most expedient for our defence, to form a camp to make head against the enemy in the field; who, if once master of the open country, would force the inhabitants to join with him, and cut off our provisions, without which we could not subsist long. The next thing to be taken into consideration was, where to find forces for this camp, the garrisons being so weakly manned, as not to be able to spare any, and the body under Captain Wiltshut consisting only of one hundred and twenty men, besides the three hundred Brazilians, to be joined with him. Considering, therefore, that the whole force in the Alegoas consisted only of two companies, under the command of Mucheron, a number not any ways proportionable to the extent of so large a tract of ground; it was judged most convenient to make a virtue of necessity, and to draw them from thence to the Receif, as indeed they had been ordered before. But their way by land being cut off by the rebels of Pojuka, a vessel, which lay ready to go out a cruising, was ordered to Porto Francisco, with others to Mucheron, to embark forthwith those forces aboard her, without having any regard to the baggage; but the rest, which could not be put aboard the vessel, should be sent by land to Rio Francisco, to reinforce Captain Koin, for the better defence of that place. Captain Fallo was likewise ordered to march with the garrison of Serinham to St. Antonio, it being not likely that the troops in Serinham should be able to make head there, after the coming of Kamaron into Porto Calvo, it being an inland country.

The same day, forty new-listed soldiers were sent to Tamarika, under command of Captain Peter Seulin, master of the sugar-mill Harlem; because this island was of the greatest consequence to us; and the garrisons of the fort Orange, and the town of Schoppe, consisting each of one company, were very weak, and the armed inhabitants did not amount to above one company more.

The same day Mr. Bas and Mr. Van de Voerde, counsellors of the court of justice, were ordered to examine Gasper Pereira, the public notary, concerning his drawing of the instrument of association; as likewise John Kariero de Maris, Francisco Dias Delgado, masters of sugar-mills, in the district of Pojuka, and Sebastian Karvalho, concerning what they knew of the intended conspiracy.

Karvalho declared a second time, at the house of Lieutenant-colonel Haus, that some days ago (he could not remember exactly which), a certain Portuguese servant, whom he knew not, did come to him in the name of John Fernandes Vieira, with a letter, in which the said Vieira desired him to sign the inclosed writing, drawn in form of an association, to take up arms against the government, as soon as they should receive any succours from the Bahia; which at that time was subscribed only by John Fernandes Vieira and Lewis da Costa Sepulveda; but, as he supposed, was to be carried to most of the inhabitants. He further declared, that he refused to sign the said writing upon the bare letter of John Fernandes Vieira, and the hand-writing being un-

known to him, he sent both the letter and instrument of association back by the same lad that brought it, with his answer by way of mouth, that he could not subscribe it. Having more maturely weighed the matter, he sent the same evening to his friend, Fernando Vale, to desire him to give him a meeting the next morning upon the hills of Garapes; which being done accordingly, it was agreed among them to give notice of this conspiracy to the great council, in a letter without a name. This letter, with the subscription of *Plus ultra*, was writ by Vale; and about ten days after given him to read in a baker's house in the Pont-street, and afterwards given to Abraham Merkado, the physician, who delivered it to the great council.

The same day, the 20th of June, the great council received a letter from Mr. Ley and Hoek, dated at St. Antonio, importing, that the whole Fregezie had taken up arms, and made sixteen or eighteen Dutch inhabitants prisoners; that they had fortified the church against those of Pojuka, whom they did not question to force from thence, provided they received any succours from the Receif. The council having taken the whole matter into serious deliberation, and considering with themselves, that, as the case then stood, they had no great reason to fear any rebellion in the north, in Parayba, and Rio Grande, as long as our fleet remained near the Red Land, and judging it highly necessary to bring the rebels in Pojuka to reason, and by their punishment to deter the rest from attempting the like, they ordered Lieutenant-colonel Haus, with a detachment of a hundred men, to march the next morning to Moribeca, there to join with Captain Wiltshut and the Brazilians, and so continue their march to St. Antonio; from whence they were, with their joint forces, to go directly against the rebels of Pojuka, to reduce them to obedience; it being otherwise to be feared that they would cut off all communication betwixt the Receif and the garrisons to the south. This expedition proved so successful, that the rebels were put to flight, and Lieutenant-colonel Haus made himself master both of the town and convent, forcing them to quit all the passes thereabouts; and forty prisoners were released, whom they had loaded with irons in the said monastery. But having received intelligence of the approach of Kamaron with his whole body against him, he desired further succours from the great council to keep the field; but the garrison of the Receif being too much weakened already, they could send him no other reinforcement till the expected succours should arrive from Holland.

The 21st, it was resolved by the great council, to proclaim a general fast all over Dutch Brazil, to be kept the 28th of June, to return thanks to God Almighty for the great mercy shewn to them on several occasions, but especially of late, in the timely discovery of the treacherous designs of their enemies, who intended to have surprized them when they were least aware of them.

The design of this conspiracy was laid thus by the Portuguese: they intended, in the Whitsuntide holidays, to make solemn rejoicings, with feasting, tournaments, and such like, on occasion of several weddings appointed for that purpose, unto which were to be invited all the chief men of Dutch Brazil, both civil and military; whom, after they were flushed with wine, they intended to murder, in imitation of the Sicilian vespers, or the noted Parisian wedding; not questioning but that, when the heads of the Dutch Brazil were cut off, the rest, when attacked at once in divers places, would fall an easy prey into their hands. But being prevented in this bloody design for that time, Midsummer-day was pitched upon, as most proper for the execution of it, when the ships were departed out of the harbour of the Receif. For the Portuguese were not ignorant, that we, having received no fresh supplies, especially of gunpowder, for a considerable time, out of Holland, our magazines were but very indifferently supplied.

plied, both with ammunition and provisions; and that consequently we must soon be reduced to great extremity, if they were masters of the field: they knew also, that all our ships, except two, were ready to sail with the first fair wind, being already fallen down to the Red Land; thus being sensible of our weakness, the Portuguese proposed to themselves no less than the conquest of the whole Dutch Brazil at one stroke. But the whole design being discovered before Midsummer-day, it vanished into smoke, both sides betaking themselves to decide the matter by arms.

The Portuguese pretended not so much the allegiance due to their King, as liberty of conscience; notwithstanding which, we have all the reason in the world to imagine, that this insurrection was undertaken not only with the knowledge, but also at the instigation of the court of Portugal, and of those of the Bahia; it being very improbable that Kamaron, Henry Dias, and the rest of the ring-leaders, should, without the approbation of the King of Portugal, have attempted to attack us by open force. Besides this, Mucheron declares to have read, in a Portuguese commission, these words: "This revolt and war, undertaken for the honour of God, the propagating of the Roman Catholic faith, for the service of the King, and common liberty." He further adds, that he has heard several Portuguese say, that if they miscarried in their design of chasing us out of Brazil, to destroy all with fire and sword, thereby to bereave us of all future prospect of receiving any benefit from those lands; which done, they would retire with their wives and children to the Bahia, or settle in some more remote place, where they might be secure against any attempts of the Dutch. There have indeed been some who, considering the unsettled estate of the King of Portugal, and the odd fancy of his reign, have thought it very improbable he should involve himself in a war with us, or have given his consent to this insinuation; but the event has sufficiently contradicted that opinion.

The 22d of June a letter was delivered to the great council, signed by John Fernandes Vieira, Antonio Kavalkanti, John Pelcoa, Manuel Kavalkanti, Antonio Bezerra, and Cosmo de Crasto Pasos, in which they complained, that they being a considerable time ago accused by the Jews of a treacherous design against the government, had been great sufferers upon that score; that now they being informed by the same Jews that they were in danger of losing all their mills and lands, to be given to certain Hollanders, who were sent for for that purpose, they desired that the time of five days appointed in the last pardon might be prolonged, as being too short for a business of such moment, and that the said pardon might be granted without exception; which they refusing to grant, they did hereby protest before God and all the Roman Catholic Princes, that they thought themselves innocent, and not in the least guilty of all those miseries which might ensue from this refusal hereafter.

The 23d, in the morning, the council was assembled to consider of the said letter; where, after several harangues upon the present state of our affairs, and the enemy's design against us, they were divided in their opinions, some being for granting a general pardon, without the least exception, as the case stood with us at present, when we were destitute of sufficient provision, ammunition, and men; others maintained, that a letter which contained so many notorious untruths deserved not the least answer; others were of another opinion. Whilst they were thus debating the matter, letters were brought to the council, written by Lieutenant-colonel Haus, from St. Antonio, that he was ready to attack the rebels of Pojuka the next day, not without hopes of good success, so that the council, considering of what moment the event of this action was to their affairs, resolved to adjourn the said debate till the next day, when they hoped to know the issue of the whole enterprize.

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The 28th of June Mucheron arrived with his two companies in the Receif, from the Alegoas, where it was resolved to dispose his own company in Quinqueregular fort, of which, as a place of great consequence, he was made commander-in-chief; the other of Captain William Lambert was put in the fort Ernestus.

By letters from Paul Linge, governor of Parayba, dated the 25th of June, we received advice that the inhabitants thereabouts offered to give him fresh assurance of their fidelity, by taking a new oath of allegiance, and that he did not observe the least motion towards an insurrection.

Jacob Daffine, master of the sugar-mill Supapema, who had been abroad with a good party, made his report to the council, that he had been at several sugar-mills, where he had met with about two hundred of the enemy's troops divided into divers small bodies, composed of Portuguese, mulats, and negroes, under the command of Amador de Araouje, Antonio de Crafo, one Taborda, and Henry Dias.

The 29th of June, by special commission from the council, Balthazar Vander Voerden examined Antonio d'Oliveira, concerning the design of the Portuguese formed against our government. He declared, that about the beginning of this present June, being then at the house of Sebastian de Karvalho, together with Francisco d'Oliveira, Bernardin Karvalho, and the before-mentioned Sebastian de Karvello, a certain Portuguese very well known to them all, delivered to him a letter, directed to all the persons there present, with another piece of writing unsealed, which he began to read; but finding the contents to be, that the under-written persons promised to be, and declare themselves faithful subjects of the King of Portugal, and that John Fernandes Vieira, Francisco Beringel, Antonio de Sylva, and several more, whose names he would not look upon, had signed the same, he returned the said writing, and refused to subscribe the same, telling his son at the same time, "You ought rather to suffer your hand to be cut off, than sign this paper;" and so went his way immediately, not any one of all there present having subscribed their names at that time: he protested he knew not the hand-writing. After a more serious consideration, he thought it requisite to make a discovery of it, which he did accordingly within two days after to Matthew Reex, desiring him to give an account of it to the great council; he declared further, that the said writing was signed by above one hundred of the inhabitants.

The 30th of June, one Digos Lopes Leyte, who was not long ago taken prisoner by the Brazilians, was examined by Mr. Bullestraet, Dortmont, and some other military officers. His confession was, that at the first beginning of the design of the Portuguese against this state, they had sent a letter to the governor of the Bahia, Antonio Telles de Sylva, to crave assistance from him, which if he refused, they would seek for aid in Spain; and if they did not succeed there, they would rather surrender themselves to the Turks, than endure any longer the ill-treatment they met with from the Hollanders. That nevertheless he had heard many dire imprecations made against John Fernandes Vieira; that he deserved no less than the gallows, he having raised this rebellion for no other end, than thereby to free himself from the vast debts he owed to the company.

The same day it was agreed to send abroad a party of twelve soldiers and eight Brazilians, to fetch a good quantity of farinha from St. Lawrence, who were put to the rout near that place, so that very few escaped. At the same time the council received the unwelcome news, that some of the inhabitants of Iguarassu had taken up arms against them.

In the beginning of July it was resolved to draw the fortifications of Maurice's Town into a narrower compass, and to add a new line with a breast-work. This task

was performed by the negroes belonging to the inhabitants of Maurice's Town and the Receif, under the conduct of Vice-Admiral Lichthart, who took care to have the fame perfected, according to the model drawn by the engineer.

The fame day advice was brought that John Lawrence Frances and John Dias Leyte, inhabitants of Iguarazu, made it their business to incite the inhabitants to an insurrection. Captain Sluyter sent also word from Tamarika, that about eighty men, and one hundred and ten women and children, all Brazilians of the villages of St. Michael and Naffau, were come into that island for shelter, and that the Brazilians of Otta intended to do the like. The magistrates and chief Portuguese of Goyana, gave the council fresh assurances of their fidelity, provided they might, in case of necessity, be allowed to retire into the said island, which was granted, and thanks given them for their loyalty. The magistrates of Iguarazu advised, that Vieira had caused a declaration to be affixed in the sugar-mills of Gonfalo Novo de Lira, which they had ordered to be torn down, and sent a copy of it to the council, assuring them, that they would take all possible care to keep the inhabitants thereabouts under obedience, though they found some of them much inclined to revolt.

At the same time Fernandes Vale was examined by Mr. Vander Voerde and Mr. Bas; he declared, that having received a letter from Sebastian de Karvalho, to meet him the next morning upon the hills Garapes, because he had something to communicate to him, concerning no less than their estates, lives, and honour; he, without mentioning any thing of it to his wife or brother, went thither on horseback, accompanied only by a boy; notwithstanding he happened at that time to be afflicted with the gravel; there he met Sebastian Karvalho, with one boy only, who told him, that he having received a letter, with another writing, containing a project of an insurrection to be undertaken against the government, he thought it absolutely necessary to give notice thereof to the great council; and that he desired him to write a letter accordingly to the council; he being pretty well versed in the Dutch tongue. That Vale asked him, whether any body besides himself knew of the matter; unto which he answered, that his brother Bernardin did; whose opinion was likewise to disclose it to the council; hereupon they returning each to their respective homes, Vale writ a letter in Portuguese, pursuant to the instructions he had received from Karvalho, for whom the said letter was left to peruse in a baker's house, on a public fair-day for the sale of negroes; after which he had sent the said letter inclosed in another, to Dr. Merkado, desiring him to see the same carefully dispatched to the great council, without mentioning the contents thereof.

The great council receiving frequent intelligence that the Portuguese from the Bahia intended to send a fleet to the assistance of the rebels, it was resolved to send orders to the four ships, the Amsterdam, the Blackmore, the North Holland, and Groningen, then at anchor near the Red Land, in order to their return to Holland, to return forthwith to the Receif, the government standing in great need of their assistance, to prevent the conjunction of the forces from the Bahia with the rebels. They received also letters from Lieutenant-colonel Haus, dated at Pojuka the 26th of June, assuring them that he had granted passes to above two hundred persons that were returned to their duty; that two or three of the ring-leaders, excepted in the last pardon, sued for the same favour, and that he had caused one Francko Godinho, one of the chief of the rebels, taken by his people, to be hanged on the gallows he had erected himself; that Amador d'Araouje being gone from thence with a hundred and fifty men to the Vergea, to join with Vieira, he expected their orders whether he should follow him, he looking upon it as a feint to draw him from thence. He further told them, that with the

Brazilians and their wives and children, he was above five hundred strong; and that unless they were soon supplied with provisions from the Receif, they should consume all the cattle thereabouts.

The great council sent an answer the same night to Lieutenant-colonel Haus, requiring him to grant free pardon to all who should desire it, not excepting the ring-leaders themselves, thereby to weaken Amador d'Araouje and his party. That with what forces he could spare in Pojuka (after sufficient provision made for the defence of the garrisons, according to their own discretion), he should march to the Receif, in order to attack Viera, where they need not fear but to be able to subsist upon what the said Vieira had laid up for the use of the expected succours of the Bahia, and the cattle belonging to the rebels.

But whilst Lieutenant-colonel Haus was employed in securing Pojuka against their attempts, those of the Vergea strengthened themselves with all possible diligence; to further which, John Fernandes Viera and Antonio Kavalkanti, who styled themselves the heads of this war, did not only affix their declarations round about Maurice's Town, and in Iguarassu, inciting the inhabitants to rebellion, by promising them considerable succours from the Bahia, but their parties also, which they sent frequently abroad, forced those of the open country to take up arms, killing such as refused. The same was practised by Amador d'Araouje in Pojuka; so that, what with provisions, what with threats and force, they got together a considerable body in the Vergea, we being not in a capacity to prevent it, because what forces we had were in Pojuka.

But judging it absolutely for our interest to stop as much as possible these proceedings, it was resolved to arm some of the lusty young fellows with firelocks, which they were furnished withal by the citizens (there being none in magazines), and to join with them a detachment of the garrison, besides a hundred Brazilians, that were lately arrived under Peter Potti.

Pursuant to this resolution, Captain John Blaar received orders to put himself at the head of three hundred men, with whom he was to march with all imaginable secrecy from the Receif, and by lying in ambush near the passes, to endeavour to intercept some of the enemy's troops, not questioning but that out of the prisoners they should be able to learn where Vieira was posted with his main body, and of what strength both he and the succours from Bahia was reputed to be among them. He had strict orders not to molest any of the inhabitants who were not in arms, but to protect them and their estates, and to receive those who sought for mercy, and bring them into the Receif. Orders were also sent to Lieutenant-colonel Haus to march with what forces could possibly be spared out of the garrisons to the south, to the Vergea, in order to join with Captain Blaar, and endeavour to attack the heads of the rebels, which, if they could once put to the rout, might be a means to quench the whole fire of rebellion, and to restore peace to the Dutch Brazil.

The first of July it was debated in council, whether all such persons as were suspected to have a hand in the conspiracy, ought not to be excepted in the pardon, or whether it should be granted to all that desired it without exception. The last was resolved upon as conducing most to the quieting the subjects minds.

The 2d in the evening, the council received advice from Captain Blaar, that he was posted at Mongioppe, with an intention to attack the enemy, wherever he met them.

The 3d he marched to Iguarassu.

The 4th, they received letters from Lieutenant-colonel Haus, from St. Antonio, importing that after having left a garrison in Pojuka under Lieutenant Flemming, and  
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one hundred Brazilians in St. Antonio, he was ready to march to the sugar-mill Velho, and from thence to Moribeca, where he would expect their further orders.

At the same time the inhabitants of Goyana having fortified themselves in a certain house, belonging to Listry their chief magistrate, they desired the council to furnish them with forty musquets, for the use of such among them as were unprovided with arms. Their request was granted, and positive orders sent at the same time to Servaes Karpentier, to take this opportunity to disarm all the Portuguese, either by fair or foul means; to effect which, he should keep the Dutch together in a body as much as possibly he could; his answer was, "he would endeavour to disarm the Portuguese by fair means, he wanting power to do it by force." Besides which, he gave notice in his letter dated the 11th of July, that every thing remained quiet hitherto in Goyana, but that the Brazilians, (contrary to his express orders) claiming a prerogative to be commanded by none but their own officers, pursuant to a decree of the council of Nineteen, had, in their passage to Tamarika, plundered several of the Portuguese inhabitants.

Most of the rebellious Portuguese had left their wives and children in their houses and mills, which, as it tended to their no small conveniency, so some of the faithful Portuguese inhabitants did propose on the 3d of July to the great council, whether it would not be for our interest to oblige those wives and children to quit their houses and mills, and to send them after their husbands.

Several reasons were alledged for it:

1. Because the rebels being encumbered with their families, must of necessity make greater consumption of farinha, and other provisions, which would oblige them the sooner to alter their measures, and to change their places.

2. That thereby they would be much disheartened, for fear of a vigorous attack.

3. That they would not be able to march or to change their camp so conveniently as before, or to lurk in uninhabitable places.

4. That by the removal of these women, who served them as spies by the help of their negroes, we should take away all opportunity from them, to be informed of our designs.

All which reasons being well weighed, the following proclamation was published:

*A Proclamation for the Removal of the Rebels' Wives and Children.*

"The great council of Brazil, by the authority of the States-General of the United Provinces, His Highness the Prince of Orange, and the West India company, make known unto every body, that whereas many of those who have sided with the three head rebels, John Fernandes Vieira, Antonio Kavalkanti, and Amador d'Araouje, against this state, have left behind them their wives, children, and families, which hitherto continue in their former dwelling-places; we do by these presents strictly command all the wives and children, whether male or female, whose husbands and fathers are engaged with the rebels, to leave their respective houses within six days after the publication of this proclamation; and to repair to their respective husbands and fathers, or else to incur the penalties due to rebels; it being our resolution not to take the same into our protection; nay, to take away our safe-guards from all such of our subjects as shall be found to harbour or conceal these before-said wives, children, and their effects, unless the husbands and fathers of these wives and children shall, within the limited time of six days, return to their dwelling-places, and sue for pardon to the council.

"Thus decreed in the assembly of the great council of Brazil."

About this time near one thousand Brazilians, among whom were three hundred and sixty-nine men, the rest women and children, being retired to the isle Tamarika, to shelter themselves against the rebellious Portuguese, Mr. Dormont, counsellor of the finances, was sent thither in the beginning of July, as supreme director of the territory of Iguarazu, to secure that island which was of so great consequence to the state, in our interest.

The 5th of July, a proclamation was issued against the three chief rebels, John Fernandes Vieira, Antonio Kavalkanti, and Amador d'Araouje, declaring their lives and estates to be forfeited, offering a reward for the apprehending of them, as follows :

*A Proclamation for apprehending the three head Rebels.*

“ The great council of Brazil, by authority of the States-General of the United Provinces, His Highness the Prince of Orange, and the West-India company, send greeting. Be it known by all, that whereas we are fully satisfied that John Fernandes Vieira, Antonio Kavalkanti, and Amador d'Araouje, setting aside their allegiance, have a considerable time ago entered into a conspiracy against the state, sending their letters throughout several Freages of our jurisdiction, to excite our subjects to a revolt ; that they have gathered and still are gathering forces to maintain their treacherous designs against this state, forcing our faithful subjects to join with them, threatening with death such as refused to enter into this rebellion ; nay, having caused several, as well Hollanders as Brazilians, to be murdered upon that score. That they have affixed and published declarations in several places, tending to the disquieting and disturbing the minds of the subjects of this state, with the name and title of governors of this war, (whereas they ought to have styled themselves faithless traitors) covering their villainous designs under the name of the Divine Majesty, besides many other misdemeanors, whereby they have rendered themselves guilty of high treason. It is for these reasons that we thought it our duty to declare the above-named John Fernandes Vieira, Antonio Kavalkanti, and Amador d'Araouje, and by these presents do declare them enemies of this state, disturbers of the public peace and our good subjects, rebels and traitors against their lawful magistrates ; and to have forfeited all their privileges, rights, lives, and estates ; and as such, we grant not only free leave to every one to apprehend or to kill the said John Fernandes Vieira, Antonio Kavalkanti, and Amador d'Araouje, but also promise a reward of one thousand Charles's gilders, to such or such persons as shall do so signal a piece of service to the company, as to apprehend either of those persons, so as they may be brought to justice ; and the like reward to any person who shall kill either of the said traitors, besides his pardon for any offence he may have committed before ; and if he be a slave, his liberty, together with the reward. We also strictly command by these presents, all the inhabitants of this state, of what quality, degree or nation soever, that they shall not presume to assist the said rebels with arms, provisions, money, men and ammunition, or harbour, conceal, or advise them in any respect, or keep the least correspondence with them, under pain of being declared traitors, and to be punished as such with the utmost rigour,” &c.

Whilst the great council were thus endeavouring to quench the flame of rebellion, they received frequent intelligence, that besides the succours already come to the rebels from the Bahia by land, by way of Rio St. Francisco, they expected a considerable fleet from thence ; it was resolved to send once more some deputies to the governor Antonio Telles da Sylva, to represent to him that Kamaron and Henry Dias being under his jurisdiction, their entering in an hostile manner into the Dutch Brazil, could

not be interpreted otherwise than a breach of the truce concluded betwixt the king of Portugal and Their High and Mightinesses the States-General.

The persons pitched upon for this purpose were Balthasar Vander Voerde, counsellor of the court of justice, and Dirk Van Hoogstraten, then commander-in-chief to the Cape of St. Austin, who being looked upon at that time as a very loyal person, was sent for the 4th of July, leaving Barent Van Tichlenborgh, to command in his absence. Francis Kyrnen Springapple was appointed their secretary, and Gerrard Dirk Laet, Alexander Sylve, and Jacob Swearts to attend them as gentlemen.

Their instructions were, to lay open to the governor the true reason and occasion of this insurrection, and the ring-leaders thereof, who would never have dared to attempt it without the hopes of succours, which were sent them by land through Rio St. Francisco: they were to search into his intentions as near as possibly they could, and to desire him to recal Kamaron and Henry Dias with their troops out of the Dutch Brazil, and to punish them according to their deserts. If they found the governor not inclined to give them due satisfaction, by recalling those troops either by public proclamation, or sending some person of authority to bring them back, or by giving them some other real demonstrations of his sincere intention before their departure, they were to protest to, and to declare themselves innocent of all the damages, murders, and rapines as well against the Hollanders, as Portuguese and Brazilians, already committed or to be committed by those forces. They were to declare to the governor, that they would look upon it as an open breach of peace and act of hostility, of which they must give an account to their masters, who, without question, would know how to make themselves amends for the damages sustained; and to protest once more, that the Dutch declared themselves innocent of all the miseries which must ensue from their taking up arms for their own defence, after their so reasonable request had been rejected.

Accordingly they set sail the 9th of July 1645, from the Receif, in the ship called the Roebuck, and coming to an anchor the 17th in the Bahia, were, in the name of the governor Antonio Telles da Sylva, complimented aboard their ships by several Portuguese gentlemen, from whom they asked leave to come ashore, having several matters of moment to propose to him in the name of the great council of Brazil.

The next day being the 18th of July, about noon, Lieutenant-colonel Andrew Vidal, and Captain Pedro Kavalkanti, with some other officers, came in a brigantine to fetch them to the palace; where, after the first compliments, they delivered their credentials, telling the governor, that out of those he would understand that they were sent to treat with him of certain points, which they were ready to propose, either now or whenever he should be disposed to receive them. The governor, after the usual return of compliments and perusal of the credentials, told them, that he was ready to hear them whenever they pleased; whereupon they proposed,

That some Portuguese subjects of Their High and Mightinesses the States-General of the United Provinces, have entered into a cabal, in order to take up arms and attack Pernambuko; to effect which, they have by certain letters solicited their fellow-subjects to enter into a rebellion, and provided themselves with arms, in hopes of succours from abroad. That in the beginning of May, Kamaron and Henry Dias with their Brazilians and negroes, and some Portuguese, being on their march in an hostile manner to Pernambuko; John Fernandes Vieira, Antonio Kavalkanti, and Amador d'Araouje, with other Portuguese their accomplices, had no sooner notice of their coming, but they absconded from their houses, gathered what forces they could, some by force, some otherwise, published their declarations, styling themselves governors of this war for the public liberty; all which they undertook upon hopes of being backed by foreign troops.

That

That through God's mercy their masters did not want power to protect their faithful subjects, and to punish the rebels according to their deserts: but as they could not comprehend what it was that could induce these foreign troops to enter their territories in time of peace, in order to aid their rebellious subjects against them, so they were at a stand how to deal with them. That the great council as well as all the rest of the inhabitants, being too well acquainted with His Excellency's extraction, exquisite knowledge in state-affairs, and the good neighbourly-correspondency he had always cultivated with our government, than to harbour the least thought that he should give the least encouragement to any of his subjects, to aid rebellious subjects against their sovereigns: that they were sensible he would use all possible means to prevent it. It was for this reason that they were sent by the great council to give His Excellency notice of the hostilities committed by Kamaron and Henry Dias, desiring that he would be pleased not only to command them not to assist the rebels with their troops, but also to retire out of Pernambuco and the other captainships under the Dutch jurisdiction; that so the rebels being disappointed of their assistance, might be sooner reduced to their former obedience, and our subjects enjoy the benefit of the truces stipulated betwixt His present Majesty of Portugal, Don John IV. and Their High and Mightinesses the States-General. All which, the great council of Brazil highly recommended to His Excellency's consideration, in a letter which was then delivered by the deputies to the governor, which is as follows:

*A Letter from the Great Council to the Governor of the Bahia.*

"It is sufficiently known to Your Excellency with what strictness the truce betwixt His Majesty of Portugal and the High and Mighty the States-General of the United Provinces, has been observed in all its circumstances by the inhabitants of the Dutch Brazil, even according to the constitution of those of the Bahia and other places, who have of late passed through our captainships; neither have we ever received the least complaints upon that account, either from the King your master, or from Your Excellency; all which gave us sufficient reason to believe that you would not in the least consent that your subjects should attempt any thing contrary to the said truce. And though some of the Portuguese inhabitants, subjects of the states, laying aside their allegiance, have taken up arms and are risen in rebellion against this state, as soon as Kamaron and Henry Dias at the head of their Brazilians and negroes, besides some Portuguese, did without licence or the least encouragement from us, enter our territories, contrary to the law of nations, and joining with the rebels exercised open hostilities against our subjects, not like soldiers, but robbers and thieves; yet can we not be persuaded that those troops should have made this attempt by order or consent of His Majesty of Portugal or Your Excellency, against us your confederates.

Thanks be to God, we do not want means to bring our revolted subjects to reason, and to destroy those foreign troops; but to shew to all the world how ready we are to fulfil the reiterated command of our masters, to maintain inviolably the truce betwixt His Majesty and them; and to remove all sinister interpretations which might be made in foreign courts upon this head, as also to give sufficient opportunity to His Majesty of Portugal and Your Excellency, to convince the world that you have neither consented to nor abetted this conspiracy; we in the name of Their High and Mightinesses the States-General, His Highness the Prince of Orange, and the governors of the West-India company, have sent Mr. Balthasar Van Voerden, counsellor of the court of justice, and Dirk Hoogstraet, commander-in-chief on the Cape of St. Austin, as our deputies to you,

with full power to propose these points to you, and to desire you forthwith to recall the said Kamaron, Henry Dias, and other leaders, with their troops, within a limited time out of our territories, either by public proclamation, or such other means as Your Excellency shall think most forcible or expedient, and to punish them according to their deserts; and if they refuse to obey, to declare them open enemies of His Majesty; it being impossible for us to conceive, how due satisfaction can be given without it to Their High and Mightinesses, to the Prince of Orange, and the West-India company, which nevertheless we ought and do expect from Your Excellency.

“(Subscribed) Your Excellency’s well-meaning friends,  
“(On the side stood)

“From the Receif,  
“July 7, 1640.

HENRY HAMEL,  
A. VAN BULLESTRATEN,  
P. J. BAS,  
J. VAN WALBECK,  
and  
HENRY DE MUCHERON.”

The governor gave immediate answer to the deputies propositions, that he was so far from sending any succours to the rebels, that he had not had the least knowledge of it. That the Brazilians and negroes were disbanded by His Majesty’s order, and that these as well as the Portuguese among them, that were come to the assistance of the rebels, could be in no great numbers, consisting (as he supposed) in some vagabonds, or others, who having committed misdemeanors in the Bahia, had taken this opportunity to shelter themselves, and flee from punishment, as it frequently happened that such-like persons did come to the Bahia from Pernambuco, which nevertheless had given him not the least suspicion of the council’s sincerity. He told them that he was extremely glad to understand the good confidence their masters reposed in him, of maintaining the truce concluded betwixt His Majesty of Portugal and Their High and Mightinesses the States-General, assuring them that he never should be prevailed upon to act contrary to it, for fear of hazarding his life. And that if he had any such intention, he did not want means to attempt it by the assistance of the Brazilians. But that he had never had any thoughts that way, notwithstanding he had been provoked to it by the Dutch, who since the truce had taken a Portuguese ship and carried it to the Receif, which by the bravery of the Portuguese was delivered from the Hollanders, and they and the ship brought to the Bahia; the Dutch mariners being dismissed without any punishment. He told them further, that he was not insensible what an opinion their masters entertained of his sincerity; and that he had reason to believe, that they had at this time as they had done before, sent their deputies chiefly to feel his pulse, to inquire into his strength, and to dive into his designs. That however, he would communicate the letter to his council, and give them a speedy answer, in order to their return home, pursuant to the request of their masters. Then the governor arising from his seat, the deputies took their leave and returned aboard.

The 19th, in the morning, they were sent for ashore by a lieutenant, and brought to the house of Lieutenant-colonel Pedro Korea de Gama, where they dined in company of Andrew Vidal and Paulo de Kunha. Towards the evening they were again conducted to the palace, where the secretary desired them to tarry a minute, because His Excellency was busy with closing his letters; after some stay, they were introduced to the governor, who told them, that he had understood the contents of the letter, which he found altogether agreeable to the propositions made to him the day before by way of mouth by them, which consisted chiefly in two points.

First,

First, the good opinion their masters had of his sincere intention, in maintaining a good correspondency with them, in order to maintain the truce betwixt His Majesty and the States-General, and the confidence they had of his not being concerned in the rebellion, either by encouraging or assisting the same. Wherefore he desired they would continue in the same sentiments, because he never had made the least infraction of the said truce, neither ever thought of any thing like it, nor suffered any of his subjects to act contrary to it; notwithstanding, said he, the Hollanders have broke the same in several respects, viz. in their expeditions against Angola, St. Thomas, and Marinho; by the plundering of Pedro Cæsar Mines, who had been basely used during his imprisonment, not like a man of quality, being forced to shelter himself among the woods after his escape. They had also taken a Portuguese ship in his own harbour. Neither did the inhabitants of Pernambuko want reasons of complaint, as well as the other captainships; he had understood out of several letters from thence, how the Jews were always busy in forging accusations against them, which were taken for truth; and when the Portuguese had thereupon absconded themselves out of fear, the Tapoyers, or mountaineers, were armed against them; among the rest, they had caused a poor hermit to be hanged. The great council had always given him sufficient proofs of their suspicion, in the last embassy, being intended to no other purpose (as Captain Hoogstraeten could testify) than to dive into his designs and strength. Thus it was reported and believed, that Andrew Vidal and Paulo Kunha, with several other officers, were sent by him into Pernambuko, though they saw them here before their eyes.

Upon the second point, concerning the troops said to be sent to Pernambuko, he gave for answer, that they must be some Brazilians and negroes lately disbanded, who were of little account, as we were sensible ourselves: that if a few Portuguese were among them, they must be supposed to be criminals who were fled from justice; that he was not unwilling to call them back by proclamation, but feared that he should be but slenderly obeyed, by a sort of people who could not be kept in obedience within his own jurisdiction. That to satisfy our request, and to remove all reasons of complaint, he intended to send his deputies shortly to Pernambuko; all which he had more clearly expressed in his letter to the great council, wherewith he would, according to the request of our masters, dispatch us with all imaginable speed.

The deputies replied, that their masters had never entertained any suspicion of His Excellency, neither had they given any orders to dive into his designs; but always had a favourable opinion of his firm adherence to the truce, as might be evidenced by Mr. Andrew Vidal, who, during his stay with them, had liberty to go where he pleased, without any attendance but his own. That what he objected concerning the accusations of the Jews was of no moment, the same being never hearkened to, the intended insurrection being discovered by persons of unquestionable credit. That John Fernandes Vieira, Antonio Kavalkanti, and others their adherents, had always been protected against any false accusations, and had free access to all the counsellors of the court of justice, and those of other colonies, as well as the chiefest among the Dutch, so that they had no reason to abscond out of fear for the Tapoyers, who never were intended to be employed against them. That they did not know of any hermit that was hanged by them, but remembered, that in an engagement with Amador d'Araouje, such a one was shot by the Brazilians as he was ringing the bell to give the alarm.

They further told him, that though they had no orders to treat with His Excellency upon any other points than those that concern the rebellion, they could easily make it out before all the world, that Angola, and the other places, were conquered according to the rules of war, without the least infraction of the truce, it having been ex-

expressly stipulated, that the war should continue in those parts till the same was published there. The Brazilians, negroes, and Portuguese, were come in considerable numbers into our territories, not like disbanded soldiers, but well armed, and their coming was not unexpected, but well-known to the rebels; but the council was not so much concerned for their number, as to be satisfied under whose authority they had taken up arms against them, that they might deal with them accordingly. But however it was, they desired His Excellency to believe, that their masters would be extremely glad to understand his good inclinations, that thereby the effusion of human blood might be saved; intreating him to send his deputies forthwith with the necessary instructions.

The governor promised to send his deputies soon after their return to Pernambuko, telling them, that as he thought himself secure of the good neighbourly correspondence of their masters, so he was resolved to continue in the same on his side. What he had proposed for the rest, had been only by way of discourse, not with an intention to enter into a dispute concerning the legality or illegality of it; though it appeared very odd to him, that they should assist his master at home, and at the same time wage war with him in other parts, under pretence that the peace was not published there; and what had passed with Pedro Cæsar de Mines was a thing not justifiable in his understanding.

After the usual compliments, he arose from his seat, telling them, that he would send the letter directed to the council to them aboard the next day, and so our deputies returned aboard their ship. The 20th, in the morning, the secretary of the governor came aboard our vessel, with the governor's letter to the council, which he delivered to the deputies, requesting in his master's name, to send him a translation of the letter from the council to the governor out of the Dutch into the Portuguese, subscribed with their own hands; which they did, and having delivered the same to the secretary, he took his leave and returned ashore.

Our people set sail the same day about noon from the Bahia to Pernambuko, where they arrived the 28th in the afternoon before the Receif, and gave an account the same day of their negociation to the great council, unto whom they also delivered the letter written by Antonio Telles de Sylva, and directed to them. The contents of which are as follows:—

*The Governor's Letter to the Council.*

“ Mr. Balthazar Vander Voerden, counsellor of justice, and Captain Dirk Van Hoogstraten, commander-in-chief on the Cape of St. Austin, Your Lordships' deputies, have delivered your letter to me, in which you are pleased to give me notice of the revolt of some of your subjects against you. I received this news as I ought to do, and should not have been able to receive it without the greatest surprise and discomposure of mind, if I had not been assured in my conscience, that Your Lordships did not in the least imagine that this insurrection could derive its source from our government; and, though I could upon this occasion enter upon a long recital of the proceedings of my government, tending, from its beginning till now, to a sufficient justification in the eyes of all the world, and of the greatest kings and princes of Christendom, that the said good correspondence has been maintained as strictly on our side, as the same is promised in Your Lordships' letter: but rather than give the least occasion of disgust or difference, by enlarging myself upon those heads, in which your subjects have expressly and manifestly violated the truce concluded and ratified betwixt the King my master, and

the States-General of the United Provinces, I will sacrifice the same to the interest of our common neighbourhood, rather than to enter upon a particular account of those miscarriages in the expedition of Angola, at a time when the States-General did assist the crown of Portugal with their naval force, when our ambassadors residing in the Receif were told, that these troops were not intended to be employed against any of His Majesty's harbours, but in the West Indies, though at the same time they were embarked for the conquest of Angola. The same may be said of the taking of the isle of St. Thomas, and the city of Luy de Mapanha, and the seizing of a Portuguese ship upon our coast, loaden with sugar from Spiritu Sancto. The commissary Greening was dispatched hither, under a pretext of buying of farinha, but in effect to sound my inclinations, as he himself confesses, when he says in a certain letter of his, "I was sent thither with this commission, but rather to feel his pulse and try his friendship, than that we were in want." The unfaithful dealings of the directors of Angola in the capitulation with the governor Pedro Cæsar de Mines; the raising of our fort Araval in Bengo; the base treatment put upon the said governor, being a person of quality, and a general of His Majesty's, are matters altogether inconsistent with the rules of war, nay, with humanity itself, and contrary to the practice not only of the more civilized nations of Europe, but also the barbarians themselves. Of the same stamp was the answer given by your council to our ambassador, who urging a cessation of arms in the kingdom of Angola, was answered, that the same had no dependency on our jurisdiction, quite contrary to the sincere intentions always observed by me in all our transactions with you; for no sooner did Your Lordships make complaints to me against one Captain Augustino Condago and one Domingo de Rocha, who having carried away a barge with sugar, had brought her into the harbour of our city, I sent back the said vessel immediately, and put the captain in prison till he was sent over to His Majesty. And that time being informed, that two soldiers living under my jurisdiction, whose names were John de Campos and Domingo Velho Sigismundo, had committed some insolencies in your captainship of Pernambuko, I caused them to be hanged immediately, looking upon it as a duty not to be dispensed with by me, for the maintaining of our mutual good correspondence; all these before-mentioned infractions having never been able to make me forgetful of the reiterated orders of His Majesty, viz. to improve the effects of the peace and alliances made betwixt him and the States-General, to our both sides satisfaction; I must at the same time confess, that looking upon myself as a soldier, (abstracted from the consideration of the interest of the state, and the duty of a subject) I thought I ought not to take tamely so many affronts, and to let slip so many fair opportunities of doing myself justice; much beyond what can be supposed to arise from the conjunction of a few unarmed Portuguese, a few discontented negroes, and some rebels, whose protection cannot, as I said before, come in any competition with the several opportunities and provocations passed by on our side before, for the common interest; and that consequently our government cannot as much as be conceived to be the hidden cause of this rebellion, as Your Lordships themselves are pleased to confess; neither would I have entered upon a recital of those particularities, if I had not thought myself obliged both in duty and affection, to give this satisfaction to you. To give you the true account of the absence of Henry Dias, you must know, that one night he left his guard in Rio Real, and passed over to your side; Don Antonio Philippe Kamaron, captain of the Brazilians, being sent after him, and not returning, I judged that they were gone towards Mocambo, to attack the Palmairas of Rio St. Francisco, which made me (to avoid all suspicion of being concerned in any thing that might tend to the

breach of peace) sent two Jesuits to persuade them to return, but in vain, they refusing to obey, either for fear of punishment, or that they were already engaged with the rebels (as I now am apt to believe they were), so that I have heard nothing from them since, except what I have understood out of Your Lordship's letter. The Portuguese under your jurisdiction have sent to me the reasons which moved them to this insurrection, imploring my assistance, as subjects of the King my master; they told me, that they stood in fear of being sacrificed to the fury of four thousand Tapoyers, sent for that purpose from Rio Grande; to avoid which, and dreading Your Lordships' anger, awakened against them by the false accusations of the Jews (the most perfidious and irreconcilable enemies of Christendom), had rather chosen to expose themselves to a miserable flight, leaving behind them their wives and children, than to endure the hardships of a tedious imprisonment. I could scarce have imagined, that you could be so far misled by the fictions of a people so much despised by all other nations, as to be persuaded by them, that certain persons were sent from hence into your territories, who have been seen here by your deputies. And though I am apt to persuade myself, that some of the Portuguese would, as the case now stands, be glad to embrace our protection, it being much more natural to be oppressed by one's own King or Prince, than by foreigners: yet when I seriously reflect upon Your Lordships' proposals made by your deputies, viz. to oblige Captain Kamaron and Henry Dias to return to the Bahia, and to use all other proper means to bring the revolted Portuguese to reason; when, I say, I seriously reflect upon the public calamities on one side, and how destitute I am of suitable means at present to satisfy your desires, I cannot but be infinitely concerned thereat; being sensible that these captains will not be brought over by persuasions; and wanting means to reduce them to obedience, who have now settled themselves at so great a distance among the woods and forests. But as I am ready to conform myself in all respects to Your Lordships' desires, to convince you of the sincerity of the Portuguese nation, which is such, that no opportunity, though never so great, of promoting their own interest, does ever stand in competition with what they think they owe to their confederates: I am willing to take upon me the office of a mediator, in order to endeavour to appease these troubles by my authority; for which end I intend to send to you with all possible speed, certain persons of known ability, with sufficient instructions and power, to the rebellious to return to their duty; which, if they decline, such measures may be taken as will force them to it; which, as I hope, may serve as the most effectual means to restore tranquillity to your dominions, and to cultivate the good opinion and correspondence betwixt us; which I wish God Almighty will be pleased to continue betwixt these two nations, by a perpetual tie of amity.

“Bahia, July 19, 1645.

(Signed) ANTONIO TELLES DE SYLVA.”

Mr. Hoogstraten at the same time gave a secret verbal account to the great council, that soon after their arrival there, Andrew Vidal, Captain Paulo Kunha, and John de Soufa came to them, the last of whom sat himself down near him (Mr. Hoogstraten), inquiring secretly after his uncle Philip Pays Baretto, whether he was among the mutineers; to whom he gave for answer, that he was still in his mill. After which, the table-cloth being laid, Soufa was invited to stay at dinner with them, which he refused; because, as he said, he was upon the guard: before dinner was ended Soufa came back, and after the table-cloth was taken away, invited Mr. Hoogstraten and Kunha to smoke a pipe with him in a back room, whither they went, but were followed by the secretary, Mr. Springapple. As they passed through a gallery, Paulo de Kunha took

took Springapple a little on one side; and in the meanwhile, Soufa told Hoogstraten with a loud voice, that he was surpris'd to hear that his uncle Philip Pays had not sided with the rest: unto which Hoogstraten answered, "That he thought he did very wisely to keep himself quiet, because it was likely to turn to no good account." "That is your opinion," replied Soufa, "but have a little patience; and because I know you to have always been a friend to the Portuguese, I can assure you it will turn to a considerable account. And it is upon this score, I advise you, like a friend, to provide for your own safety and your family. You may rest assured, that if you will engage to do a piece of good service to the King my master, and to the governor, you shall want neither money, sugar-mills, places, nor preferments." Mr. Hoogstraten, appearing somewhat discomposed at this discourse, told him, "That though he was not unwilling to do the King and governor what service he could, he did not know what sort of service he meant." Unto which Soufa replied, "I am sure you are able to do good service to the King." "But then," says Hoogstraten, "you must tell me how." "That I will," answered Soufa; "are you not governor on the cape of St. Austin?" Unto which Mr. Hoogstraten said, "Yes, I am." "Then," replied Soufa, "all that is required of you, is, to surrender the said fort, with all its works, into the King's hands, that we may land our men thereabouts: if you will promise to do it, you shall have a very ample reward, and be made commander-in-chief of our forces." Mr. Hoogstraten gave for answer, "that these were things of such a nature, as were not consistent with his oath and honour." Their discourse being interrupted at that time by the coming of another person into the gallery, John Soufa and Paulo Kunha went out another way. Mr. Hoogstraten told his secretary, Mr. Springapple, with a discomposed look, "What is the meaning of these dogs, do they take me for a traitor?" He was going on to say more, when Soufa and Kunha returning into the gallery, took him aside, and told him, "That he might be sure every thing should be performed that had been promised him; that if he wanted any money, he should have it immediately; and for the rest, they would introduce him alone to the governor, to receive the confirmation of it from his own mouth." Mr. Hoogstraten replied, "What you desire is not in my power to perform, if I would never so fain; because I am promised to have a commission of major immediately after my return, and then I shall certainly be employed in another place." During this parley, Mr. Vander Voerde entered the gallery in company with Mr. Andrew Vidal, who entertained him all the while the others were talking together, till Hoogstraten, taking his opportunity as they were walking together, whispered Mr. Vander Voerde in the ear, "I wish I was well rid of them, to talk a little with you in private, for I know not what their design is; I am afraid they will either kill or detain me here." Mr. Vander Voerde would willingly have made a reply, but could not, by reason Soufa and Kunha, and Pedro Korea de Gama (the last of which understood Dutch), were so near them; so that he thought it the safest way to dissemble, and to pretend as if they had been talking about some indifferent matter. Mr. Hoogstraten then told Soufa, that he had a great mind to pay a visit to Donna Catherine de Melo, mother-in-law of Philip Pays Soufa; he answered him, that he would ask the governor, who having given his consent, Hoogstraten went thitherward with Soufa, and at his going out of the gallery, whispered Vander Voerde again in the ear, "They have caught a mackerel, for I intend to act the hypocrite to the life." As they were walking along the street to Madam de Melo's house, Soufa and Kunha repeated their former discourse, endeavouring to encourage Mr. Hoogstraten, by hopes and promises of great reward, both from the King and governor, with

whom they said he should confer in private concerning the point in hand, and that in the following manner.

After their return from Madam de Melo's, to the house of Pedro Korea de Gama, where Vander Voerde expected their coming, Kunha was to go privately to the governor, to agree with him, that when Mr. Vander Voerde, Hoogstraten, Soufa, and Kunha, should come to speak with him, he should by his secretary desire them to stay a little while. In the meanwhile, Soufa was to ask Mr. Hoogstraten to take a glass of wine with him, and under that pretence bring him to the chamber of the confessor of the governor, where they were to have this private interview. Accordingly, Paulo de Kunha went to the governor, whilst Hoogstraten and Soufa were returning to Pedro Corre de Gama's house; when Soufa entertained him with nothing else, but the probability of succeeding in their enterprise against the Dutch Brazil, telling him, that the governor stayed only for the coming of Salvador Korrea de Saa and Benevides, who were expected with galleons from Rio Janeiro, besides some other ships; and that twenty-five hundred men were designed for this expedition, besides those already in arms in Pernambuko, who were to be sent from the Bahia, and to be landed on the Cape of St. Austin; "this is," said Soufa, "the governor's request to you."

Scarce were they returned to the house of Pedro Korrea de Gama, when Andrew Vidal came and told them, that the governor was ready to receive them; so they went to the palace, where they were no sooner come within the anti-chamber, but the governor's secretary came to desire them to tarry a little, the governor being busy with closing some letters. So, whilst some Portuguese were entertaining Mr. Vander Voerde near the window, says Soufa to Mr. Hoogstraten, "Come, shall you and I take a glass of wine in the meanwhile?" Which Mr. Springapple, the secretary of the embassy, understanding, told him, that he would go along with them; but Paulo de Kunha, and some other Portuguese, taking him aside, kept him in discourse, whilst Mr. Hoogstraten was conducted by Soufa into the confessor's chamber.

Within a few minutes after, the governor, Antonio Telles de Sylva, entering the room, saluted Mr. Hoogstraten very courteously, and setting himself in a chair near him, ordered the chamber to be locked, nobody being present besides themselves, but Soufa. The governor then told Mr. Hoogstraten, that he had always taken a particular notice of his character, of his being a friend to the Portuguese, that he hoped he would continue in the same opinion, and would not refuse the offer made him by Don John de Soufa, in the King's and his name; their intention being not to enter into a war with the Dutch, but only to repossess themselves of what of right belonged to the present King of Portugal, Don John IV. and that if Count Maurice of Nassau had stayed any longer in this country, he himself would have been instrumental in bringing this matter about. Mr. Hoogstraten answered the governor, that he should be glad to understand what it was he could serve him in. "You have," says he, "understood that from Mr. Soufa, and I desire you to turn absolute Portuguese." Mr. Hoogstraten told him it was beyond his power, because immediately after his return, he should be provided with a major's commission, and consequently not be employed in the same place: unto which the governor replied, "You need not question any place of honour or profit among us, but it will perhaps not be convenient to discourse together upon this point at present, for fear Mr. Vander Voerde should suspect us: but I intend to send two ambassadors (of which Mr. Paulo de Kunha is to be one) to your government, who shall be empowered to treat with you further upon this account. And," says he, giving his hand to Mr. Hoogstraten, "rest assured, in the name of the King

my master, that whatever Mr. Paulo de Kunha shall promise you, will be punctually observed and performed."

Then the governor took his leave, telling him that he would not detain him any longer, for fear of creating a suspicion in his colleague, and so retired into his own apartment. But Mr. Hoogstraten and John de Soufa were no sooner returned from thence, but the governor sent for the said Mr. Hoogstraten and his colleague Mr. Vander Voerde, to confer with them, concerning their proposals, made in the name of the council of the Dutch Brazil: as they were walking thither, Mr. John de Soufa told again to Mr. Hoogstraten, with a low voice, "And why are you obliged to accept of the major's commission? It is an easy matter for you to tell them, that you would rather continue governor of the place where you now are; and be satisfied, that when you come among us, that you will not want any employment fit for a good soldier as you are." Mr. Hoogstraten being not a little moved with this discourse, was more desirous to get aboard their vessel, as soon as possible he might, to get an opportunity of communicating the whole matter to Mr. Vander Voerde; which he did accordingly, as soon as they were entered the cabin, the door of which he ordered to be locked immediately.

In the meanwhile, viz. the 5th of July, it was debated in the council of the Dutch Brazil, whether, for the security of the country, they should not want the assistance of the Tapoyers, under their King, John Duwy, dwelling in Rio Grande; who for that purpose had gathered a good body near Kunhau, especially since the Portuguese committed all manner of barbarities against the Dutch, and had summoned the barbarians called Rondelas, from the Bahia.

But considering the devastations which must needs ensue upon the march of those barbarous people in the flat country, it was thought convenient not to come to any certain resolution upon this point, until they had advised with Lieutenant-colonel Haus, to whom a letter was dispatched immediately upon that account.

On the 7th of July, the said Mr. Haus sent word to the council, that he intended to march the same day from Moribeca, and after being joined with Captain John Blaar, to attack the enemy at St. Lawrence; but by another letter of the 16th, written by Captain Blaar, they were informed that the rebels continued very strong at St. Lawrence, expecting a certain reinforcement from the Matta; where they had forced the people to take up arms for them; desiring a succour of fifty men, to drive them from thence. Hereupon the council dispatched messengers both to Blaar and Haus, ordering them to join their troops, and to rout the rebels near St. Lawrence, on which in a great measure depended the preservation of the Dutch Brazil.

The 7th of the same month the council received also a letter from Lieutenant Fleming, dated at Pojuka, in which he advertised them, that he had received certain intelligence, that Kameron was marching against him, and that two companies were already come to the sugar-mill of Pikdora. Hereupon orders were sent him, that if he found himself not in a condition to keep the monastery for want of provisions, he should, at the approach of Kameron's troops, retire to St. Antonio, the better to make head against the enemy. The same day Ensign Hartstein marched with a detachment of ninety soldiers and thirty Brazilians, of the garrison of the Receif and Itamarika, to Ajama and Jegoaribi, in quest of the rebels, but meeting with none, returned about noon, and the same evening directed his march towards Haus.

The 8th of July, the council having received advice from Haus that they intended the same day to march from the sugar-mill of St. John Fernando Vieira to attack the rebels of St. Lawrence, if they would abide his coming, it was resolved to send as

many forces as possibly they could spare to his relief, considering that the preservation of the whole Dutch Brazil depended on the success of this expedition; and accordingly two companies of foot, of Mucheron and Blaar, were ordered to march thither, not questioning but that before their arrival Haus would be joined by Captain John Blaar; and in effect the next following day they received advice from Mr. Haus, that he was ready to join with the said Blaar.

The 10th of July the council gave an account, by letters to Haus, what intelligence they had received concerning the posture of affairs in St. Antonio and Pojuka, with orders to send as many firelocks and Brazilians as he could possibly spare to their relief, to keep the passage from St. Antonio to Pojuka and Serinham open; without which, all communication betwixt them and the Receif would be cut off by the enemy. Two letters of John Fernandes Vieira and Antonio Kavalkanti were the same day read in council, in which they complained of the severity of the two last proclamations, but were not thought fit to be answered; especially since Amador d'Araouje had about the same time retired from the pass of Pinderama.

Two days before, viz. that the council had received letters from Mr. Hoek, dated the 25th of June, at Rio Grande, intimating that hitherto there had not happened any commotions in those parts; that, however, he had disarmed the Portuguese, and that the Tapoyers appeared to be well inclined to the government. Orders were sent him to cultivate a good understanding with the Tapoyers, for which purpose they sent some presents to John Duwy, their King, and that the council approved his disarming the Portuguese. On the same day Father Imanuel, Lewis Bras, Imanuel Ferdinand de Sa, Kaspar de Mendoza, Furtado, and Jeronymo de Rocha, all Portuguese inhabitants of the Dutch Brazil, delivered their petition to the council, requesting that the time of six days, appointed by the last proclamation for the wives and children of the revolted Portuguese to leave the country, being expired, they might be allowed to stay in their habitations at least till the ways, which at that time were rendered unpassable by the overflowing of the rivers, were somewhat mended. But considering that the Portuguese rebels forced the inhabitants by threats and other unusual methods to take up arms against the government, their request was not granted.

The 13th of July, the council were advertised by letters from Haus, dated the 12th, that he had passed the river Kapivaribi, and marching through the Matta to the sugar-mills of Arnao d'Ollanda, had met with four hundred rebels, who at the approach of his troops were fled to Moribeca, with the loss of some of their men, from whence they might, without any opposition, march to the Matta of Brazil, and that he was ready to march directly to St. Lawrence, where he would expect the further orders of the council. They immediately dispatched their orders to him to pursue and rout the flying rebels with all possible speed before they could make head again, which done, he should fix his head-quarters in such a place where he was sure he might be supplied with provisions out of the adjacent country; their magazines being so exhausted, as not to be in a condition to supply his troops. Haus had already in some measure taken effectual care of this point, having in the meanwhile sent a reinforcement of one hundred foot, and a company of Brazilians, under the command of Captain Tallo, to Mr. Ley, governor of Moribeca and St. Antonio. The council also ordered the governor of the Cape of St. Augustin to strengthen the fort with pallisadoes; and at the same time received advice from Mr. Ley from St. Antonio, that the rebels under Amador d'Araouje and Pedro Marinha Falkao, had posted themselves within sight of them, in the new sugar-mill, but as soon as he received the expected succours, he did not question to chase them

from thence, Amador d'Araouje having in vain attempted to force those of Pojuka, to take up arms against the government.

He received also intelligence from Mr. Carpentier out of Goyana, that things remained in quiet there as yet: but whilst Haus was busy in making head against the rebels in the Vergea, Petro Marinho Falkao having declared himself head of the rebels of Pojuka, had gathered a body sufficient to block up the garrison of St. Antonio, who had no other supplies of provision, but what they received from the circumjacent country; so that the council being sensible of the danger, sent immediate orders to Haus, to hasten to the relief of that place; who, accordingly directed his march the same night to the sugar-mill of Lewis Bras, leaving Captain Wiltshut with a company of soldiers, and all the sick, behind at St. Lawrence.

The council received also advice by letters from Paul de Linge, dated the 12th of July at Parayba, that things were as yet quiet thereabouts, but that with much ado he had hitherto kept the Brazilians, inhabiting the villages, from plundering the Portuguese inhabitants, who were extremely dissatisfied, because some of the Brazilians and Tapoyers, that had done them considerable mischief, were discharged out of custody. They ordered him to take all possible care to keep both the Brazilians and Dutch inhabitants, who were both for plundering the Portuguese, from doing any mischief to them; for which reason the council sent the following proclamation to be published there:

*A Proclamation.*

“ We the members of the great council, having received frequent complaints, that many of the faithful inhabitants of the country, who lately have taken a new oath of allegiance to the government, are plundered and robbed by the soldiers and volunteers; and being resolved to maintain them in the possession of their estates and goods, have for that reason granted them safeguards, and taken them into our peculiar protection; do hereby forbid all our officers and soldiers, as well as the other inhabitants under our jurisdiction, to attempt to plunder any of the inhabitants, provided with such safeguards, or to indamage them any otherwise, either in their goods or persons, upon pain of corporal punishment.”

The 15th of July in the evening, the council was advertised by Mr. Ley, that the rebels had killed some soldiers of the garrison of St. Antonio, that were sent abroad to fetch some cattle from the sugar-mill Gurapou, and had so closely blocked up the place, that no provision could be brought thither; and as they were not provided with necessaries for above a few days longer, they were in the utmost danger of being lost. Lieutenant-colonel Haus being expected the same evening with his troops at St. Lawrence, orders were dispatched thither for him to go to either in person, or at least to send as many able soldiers as he could bring together, under the command of Captain John Blaar, to the relief of St. Antonio, the council being of opinion, that the safety of the Cape of St. Austin, and of all the southern provinces, depended on the preservation of this place; for which reason, they also ordered Captain Falho, who was expected about the same time with a company of soldiers, and as many Brazilians at Moribeca, to march directly to St. Antonio, and to stay there till further orders; of all which they sent advice to Mr. Ley, and Mr. Heck. Haus having, pursuant to these orders, directed his march to St. Antonio (notwithstanding the weariness of his soldiers, tired by a tedious march), Pedro Marinho Falkao had no sooner notice of his approach, but he raised the blockade of St. Antonio, and with his body of rebels

gathered out of the three districts of St. Antonio, Pojuka, and Moribeca, to the number of six hundred, joined with the rebels in the Vergea of Moribeca.

The 17th of July, the council were advertised by Haus in a letter dated at Moribeca, that having received a message from Mr. Ley and Mr. Heck out of St. Antonio, with advice, that in Puerto de Gallinas two boats with ammunition were landed by Pedro de Kunha, he had sent thither Captain John Blaar, and Ensign Hartstein, with a good body of his ablest soldiers and Brazilians, he himself not being in a condition to follow with the rest, disabled by their late marches; for which reason he had put them into quarters of refreshment in Moribeca, where he would expect their further orders, as not judging his presence necessary at the Receif, now the enemies were fled before him.

Orders were thereupon dispatched to him by the council the 19th of July, to keep his head-quarters in Moribeca, the better, to keep a watchful eye over the rebels that were retired into the woods; and to be the nearer at hand to succour either St. Antonio or Pojuka, for which Moribeca lay very convenient; but if the enemy should become too strong for him, he should retreat towards the Receif. Advice also was sent him that Amador d'Araouje, Pedro Marinho Falkao, John Pais, and Kabral, were, with the rebels they had gathered in St. Antonio and Pojuka, marched the day before in the morning from D'Ingenio Moreno Gardo, to join their troops with those of John Fernandes Vieira.

The council likewise received several letters from John Hoek, Rudolph Baro, and James Rabbi, dated the 5th, 6th, and 7th of July, concerning the present state of affairs in Rio Grande, and that they being threatened with an invasion by Kamaron on the south-side, and by the Brazilians of Siara and Maranhaon from the north, they had disarmed all the Portuguese and laid up their arms in the forts of Keulen. They had also, by the advice of King John Duwy, taken into custody a certain Portuguese called Antonio Vetallo, with his son, being accused by the said King Duwy of having had a hand in the murder committed upon the Dutch in Siara, and in the conspiracy of the rebels. They further complained of the ill practices of the Portuguese, who fought by all means possible to oppress the Dutch thereabouts; adding withal, that King Duwy was ready with his Tapoyers to fall upon the Portuguese, as soon as he received orders for that purpose, which had made many of the Portuguese fly out of Parayba.

About the same time, near one thousand Brazilians, viz. three hundred and sixty nine men, the rest women and children, being fled for shelter into the isle of Itamarika, where they were maintained out of the magazines, it was resolved the 21st of July by the council, to send thither Mr. Listry, to take effectual care to ease the company of that burthen, that they might be engaged to provide themselves out of their respective Aldeas. Things were as yet quiet about that time in Itamarika, Goyana and Parayba, by the good conduct of Mr. Paul Vander Linge, governor of the last. For as soon as the fire of rebellion began to break out in the Vergea, Pojuka, and in Olinda, the council being advertised that they ought to keep a watchful eye over those of Parayba, where several were suspected of being conscious of the design, they sent the 13th of July Paul de Linge, one of the assessors in the court of justice thither, with an ample commission, to endeavour to keep the inhabitants in obedience, and to act for that purpose, as he should find it most conducive to the public security. He was no sooner arrived there, but he made it his chief care to provide the forts with sufficient garrisons, ammunition, and provisions, which he took from the ships then lying in the road, behind the Red Land: he further took care to secure all the suspected persons, and

and summoned the rest to take a new oath of allegiance to the government, which they did accordingly.

The council used the same precaution in the district of Pojuka, in the Vergea, Garassu, and Goyana, where they obliged such of the inhabitants as had not left their dwelling-places to take a new oath of obedience. But the late succours sent thither from the Bahia frustrated all these endeavours.

On the 24th of July, Mr. Ley came with credentials from St. Antonio to the council, unto whom he made the following propositions.

I. That whereas several young and able men, living near St. Antonio, had not lifted themselves pursuant to the proclamation issued for that purpose, they desired orders might be sent for all those living in the jurisdiction of Maurice's Town and St. Antonio in the open country, to be obliged to take up arms for the defence of the country.

II. To oblige all such young men as were not able to serve as volunteers, at their own charge, to lift themselves for soldiers, and to instruct them in martial discipline.

III. That perhaps it might not be unadvisable to draw the garrison out of Porto Calvo, to appear the more formidable in the field.

IV. To divide our land-forces into two bodies, the better to maintain themselves in the open country; whereas now, upon the least motion of the enemy, our whole force was obliged to follow them; and that the garrison of St. Antonio should be reinforced with such a number, as to be able to send abroad a good party, for the conveniency of fetching the necessary provisions out of the country.

After mature deliberation, the council was of opinion as to the

1st. That the young inhabitants of St. Antonio, Pojuka, and Moribeca, ought not to be forced to serve in the fort St. Antonio.

2d. That they would empower Mr. Ley and Heck to take as many of the young men as voluntarily offered themselves into the service for four months, at nine gilders per month, and one month's advance-money.

3d. They were absolutely against the leaving of the fort Porto Calvo, but that it ought to be defended to the utmost.

4th. What concerned the dividing of their land-forces in two bodies, they would advise with Colonel Haus, but they approved of the proposed reinforcement of the garrison of St. Antonio, for reasons by them alledged.

Lieutenant Hans Vogel, by his letters dated the 18th and 27th of July, at Seregippo del Rey, advised the council, that he had sent a detachment towards Kamaron, who could not get fight either of any Portuguese or Brazilians, but that they had taken a single Portuguese, who was charged with letters to be carried to Rio St. Francisco. He told them that Kamaron with some troops was marched through Rio St. Francisco into the captainship of Seregippo del Rey; and that three or four small vessels or caravans, with some troops under the command of Andrew Vidal, were sailed from the Bahia to Maranhon and Siara. He likewise sent the letters found upon the said Portuguese to the council, by which it appeared that the first foundation of this revolt had been laid among those of the Bahia, or, at least, that they had been made privy to it, and that they had provided these succours; for, among others, there was a letter from the bishop of that place, to a certain friar of the Receif, in which he told him, that he hoped to be with him before long; whereupon the fiscal was ordered to examine the matter, in order to find out the bottom of this correspondence betwixt these two clergymen.

In the meanwhile the Tapoyers of Rio Grande, (according to Mr. Linge's letter of the 19th of July,) had murdered thirty-five Portuguese in the sugar-mills of Kunha, who being of the number of those that had surrendered their arms, pursuant to the proclamation, this caused no small terror among the rest of the Portuguese thereabouts, and especially in Parayba, where they left their habitations; so that, it being to be feared they would associate with the rebels, under pretence of self-defence, Mr. Linge desired a reinforcement of soldiers to keep the Tapoyers in awe. The council therefore commanded Mr. Astellen and Captain William Lambert, with his company of foot, besides twenty fuzileers, and a detachment of fifty men out of the garrisons of Parayba and Rio Grande, to take care of the Tapoyers, and to conduct them to the Receif; Jacob Rabbi their commander was ordered to march along with them, and Rudolph Baro appointed to provide them quarters upon the road.

Haus having by this time sufficiently refreshed his troops, writ a letter, dated the first of August, to the council, in which he desired their orders to go in quest of the rebels, and to attack them before they could be reinforced with their expected succours; which being granted him, he attacked them in D'Ingenio of Balthazar Moreno, with such success, that he beat them from place to place, till on the 3d of August they retired to their intrenchment upon a high steep hill, accessible only in one place. Notwithstanding which, he, relying upon the bravery of his soldiers, and hoping thereby to put an end to the war, attacked them vigorously in this advantageous post; but the rebels being superior to him both in number and in the strength of their camp, his forces were repulsed with the loss of one hundred men (some say five hundred), among whom was Captain Lor. After this defeat, Haus, being sensible that the enemy expected daily a fresh reinforcement from the Bahia, retired to the Receif, where he knew his troops were absolutely necessary for the defence of the place.

On the first of August, Goncalvo Kabral de Kaldos was by the court of justice condemned to death, having, at the instigation of John Fernandes Vieira, undertaken to head the rebels in the captainship of Goyana. The same fate attended one Thomas Pais, an inhabitant of Tienpio, who had endeavoured to raise some troops for the said John Fernandes Vieira. The same day the great council received advice out of Serinham, (the letters being sent privately in the night-time in a small boat down the river to the sea-side,) that the rebels began to be very numerous thereabouts, that they were masters of the river, had staved all the boats, and plundered D'Ingenio Formosa, where they carried away the negroes, and killed the beasts belonging to the Dutch, but spared those of the Portuguese. The council being sensible that nothing but force would be able to reduce these rebels to their duty, and that they were from time to time reinforced from the Bahia, whereas the Dutch troops diminished daily, they resolved the first of August to send Mr. Balthazar Vander Voerde, counsellor of justice, to Holland, to represent to the council of Nineteen there the true state of the affairs of the Dutch Brazil, and to solicit prompt succours. Accordingly the said Mr. Vander Voerde having taken his leave of the council, set sail the next day with the rest of the ships that lay ready to sail for Holland, being instructed with sufficient power and credentials from the council, as follows:

*Mr. Vander Voerden sent with a Credential into Holland.*

“Most noble, honourable, and most prudent Lords,

“Notwithstanding the rebels make not the least use of the royal authority, but cover their revolt with the cloak of godly liberty, we were always of opinion that this rebellion

lion of our Portuguese inhabitants has not only been undertaken with the consent of the King of Portugal, or at least of his governor of the Bahia, but also encouraged and fomented by his authority and conduct: for how can it be supposed that Kamaron, Henry Dias, and the other ring-leaders, should have dared to attempt to attack us by force of arms without his approbation? It was likewise our constant opinion, considering the present unsettled state of Portugal, and the alliance betwixt that King and the states of Holland against Spain, that he would be sure never to acknowledge the transactions of the heads of the rebellion, and the succours sent them, to have been done by his authority, lest the breach of faith and all its ill consequences might be one time or other laid at his door, till he thought himself sure in the entire conquest of the Dutch Brazil. Our guess has since proved more than too true; for Antonio Telles de la Sylva, governor of the Bahia, (as is evident from his answer to our letters here inclosed) denies to have had the least knowledge, much less any hand, in the contrivance or conduct of this conspiracy; laying the blame of this insurrection upon their ring-leaders, who refused to obey his orders, and offering to send certain commissioners to appease the fury of the rebels; and in case they should refuse to comply, to force them by the King's authority to lay down their arms. But how little agreeable this offer of putting an end to this rebellion, is to his real intention, is apparent out of the report made by Mr. Vander Voerde and Captain Dieterick Hoogstraten, under-written by their own hands; in which you will find these express words of the governor: 'That the Brazilians and negroes were disbanded by His Majesty of Portugal's particular order.' The abstracts of the several inclosed letters sent from the Bahia, and taken from the messenger by our forces in Seregippo, will put it beyond all doubt, that several inhabitants of the Bahia, and among them the bishop himself, had already in May last some knowledge of the intentions of John Fernandes Vieira, and his accomplices; add to this, the depositions of Captain Dieterick Hoogstraten, subscribed by himself, concerning the propositions made to him in private, whilst he was managing the company's business there, in the quality of one of our deputies; which as it directly contradicts the governor's answer to us, so it unravels the whole secret of his real intentions. And forasmuch as all these things are sufficient forewarnings to us, that the rebels will be constantly supplied from the Bahia, whereas we on the contrary must expect to be weakened more and more in every respect, we judged it absolutely necessary and requisite for the service of our state, to send to you the members of the council of Nineteen, Mr. Balthasar Vander Voerde, counsellor in our court of justice, to give you a verbal account of the deplorable state of our affairs here in a more ample manner than the same may be expressed in writing, not questioning, but Your Lordships will thereby be encouraged to send us a speedy and sufficient succour, to re-establish our affairs here, and to deliver your faithful subjects from the imminent danger that threatens no less than the ruin and loss of their lives and estates, and desiring you to give a favourable reception to the said Mr. Balthasar Vander Voerde.

"Receif, the 2d of Aug. 1645."

Immediately after the departure of the two before-mentioned envoys, Mr. Vander Voerde, and Captain Hoogstraten out of the Bahia, being the 20th of July, the governor, Antonio Telles de Sylva, ordered all the sea and land men that could be got together in haste, to be embarked in twelve ships ready fitted out for that purpose, with necessary ammunition, arms, and provision, for the intended invasion. Hieronymo Serrao de Payva had the supreme command over the fleet, as the Colonels Martin Soares Moreno and Andrew Vidal de Nigreiros had over the land-forces, both officers in the

service of the King of Portugal. The orders given to the admiral by the governor, dated the 20th of July, contained in substance, that the great council of the Dutch Brazil having notified to him the insurrection of the Portuguese inhabitants of Pernambuco, he had judged it expedient to equip his fleet, in order to put a speedy stop to those disorders, because he was willing to comply with the said council's request, in respect of the sincere friendship and correspondency betwixt the crown of Portugal and them, which he had strict orders from His Majesty to observe; whereas it is evident, that the great council of the Dutch Brazil. in their letter to Salvador Korrea de Saa Benavides, of the 13th of August, expressly declare, never to have desired any assistance from the governor of the Bahia, against the rebellious Portuguese inhabitants.

The farther instructions given to the said Admiral Payva were, that he should directly steer his course from the Bahia to Pernambuco, keeping about twenty or thirty leagues distance at sea, from the shore; that coming to the tenth degree he should approach to the shore, and if he found the wind to blow hard from the south, before he came to the before-mentioned height, he should be very careful not to pass beyond the land's point in the night-time. After having taken a view of the country, he should, with the advice of his best pilots, endeavour to land his men in the most secure place he could meet with thereabouts, either at Una, Legamar, or Tamandare; being three leagues to the south of the isle of Alexo. But if they could not make any of these harbours, they should enter at Porto Doffer, Nambous, or Lagamar of Marakaïpe, lying two leagues to the north of Alexo. But if, notwithstanding all their endeavours, they also should miss their aim in those places, to make themselves masters of Porto de Gallinhas, and to land their men betwixt that place and Barra Grande. After they had landed their men, with the necessary ammunition and provisions, he should set sail to the bay of Pernambuco, in order to deliver with his own hands the governor's letter to the lords of the great council.

Accordingly the said fleet set sail towards the latter end of July from the Bahia, and in a few days after arrived in the bay of Tamandare, betwixt the rivers Olina and Formosa, about four or five leagues beyond Alevo and Serinham. They were no sooner come to an anchor there, but the Colonels Martin Soares Moreno and Andrew Vigal de Nigreiros landed the 28th of July one thousand eight hundred or two thousand landmen, among whom were many reformed officers well appointed, and great store of arms, ammunition, and other necessaries.

The 1st of August, towards evening, three ships with five small vessels appeared in sight of the Receif, steering their course to the north, whereupon the council dispatched their immediate orders to the two ships, the Zoutlandia and the Zealandia, to make all the sail they could after them, to observe what course they steered, and to prevent their landing of men. About the same time an advice-boat arrived from Admiral Lichthart, with letters to the council, intimating, that he had seen the said ships, and that he supposed their intent to be, to land some men on the south of the cape of St. Austin, for which reason he desired them to send him some ships, and grant him leave to take as many of the garrison of St. Antonio as he should judge necessary to attack the enemy; of all which immediate notice was given to the northern parts, to be upon their guard against any sudden surprise.

But the next following day those ships being got out of sight, several masters of small vessels, that had been near them at sea, reported, that they were heavily freighted ships, which by the strong north winds were forced near the shore, so that it was concluded that they had steered their course towards Portugal.

Immediately

Immediately after, Admiral Payva set sail from the bay of Tamandare, and meeting with the fleet under the command of Admiral Salvador Korrea de Saa Benavides, which was latterly sailed out of the port of Rio Janeiro, he returned with him into the said harbour, and on St. Lawrence's day with their joint forces sailed from thence towards the bay of Pernambuko.

The first news the council received of it was on the 11th of August, by a master of a small vessel, called John Hoen, bound for Seregippo del Rey, and by commissary John Barentz, with advice that they had seen a fleet of twenty-eight or thirty ships off Una, or Rio Formosa, and that three of them had pursued them, and discharged some of their guns upon them. Much about the same time they received letters from Major Hoogstraten, from the cape of St. Austin, and the fort Vander Dussen, intimating that Andrew Vidal, Henry Dias, and Paul de Kunha were landed at Una, and marching to Serinham, had made themselves masters of the place, where they had given quarter to the Dutch, but cut to pieces all the Brazilians. The council hereupon took immediate care to send some ammunition and provisions to the said cape, having already, for the better security of that place, ordered Mr. Ley and Mr. Hoek, two days before, to leave the fort of St. Antonio, and to retire with the garrison to the cape of St. Austin, before they were enclosed by the enemy. That two ships, the Deventer and the Elias, which were in the harbour unloading their goods and provisions brought along with them for the service of the company, were ordered to be equipped immediately, in order to join with the other five ships that lay at anchor in the road, viz. the Utrecht, the Zealandia, Ter Veer, the Zoutlandia, and the Golden-Doe. The same night advice of all that was past was sent to Colonel Haus, with orders to be upon his guard, and to retire with his troops to the sugar-mill belonging to Mr. Hoek, or any other convenient place, from whence he might be able to maintain a communication with the Receif. Letters were also dispatched to Mr. Dormont in Itamarika, to Mr. Carpentier in Goyana, and Mr. de Linge in Parayba, to advertise them of the enemy's arrival.

To supply the want of seamen, many labourers were pressed on board the ships, as were likewise thirty-five land-soldiers of Moucheron's company, who had spoiled their feet by their last long march; and out of the ship Elias were a thousand pounds of gunpowder, and out of the Doughter six hundred, sent ashore for the use of the garrison.

Not long after dinner-time the enemy's fleet, consisting of twenty-eight or thirty ships, appeared in sight of the Receif, where they cast anchor to the north of four of our ships and a yacht, which lay in that road; so that the next following night was spent in ballasting the two ships, the Elias and Deventer, and in fitting them for the sea. The next morning with break of day, the Portuguese admiral who carried the white flag, sent Martinho de Rebeira and Balthasar de Castilho, as his deputies, aboard the Dutch admiral Cornelius Lichthart, who brought four letters, viz. two from the governor of the Bahia, Antonio Telles de Sylva, the first dated the 21st, and the second the 22d of July; the third from the Portuguese admiral, Salvador Korrea de Saa Benavides, and the fourth from Jeronymo Sarrao de Pavia, dated the 12th of August; besides another letter from the before-mentioned governor, directed to John Fernandes Vieira, Anthony Kavalkanti, and the other heads of the Portuguese rebels.

Admiral Lichthart carried the said deputies ashore, in order to deliver the letters to the council; which being translated, were read at the meeting of the council the 14th of August, as well those of the governor from the 21st, 22d, and 24th of July,

as from Salvador Korrea de Saa Benavides, commodore of the Portuguese fleets, and Jeronymo Sarrao de Pavia, who had landed Andrew Vidal with his men near Rio Formosa.

The first letter was as follows :

*The first Letter.*

“ Pursuant to Your Lordships’ letter, and the propositions made in your behalf by your deputies, Mr. Balthasar Vander Voerde, counsellor of Justice, and Dieterick Hoogstraten, governor of the cape of St. Austin, in which you requested the recalling of the troops under Henry Dias ; I being desirous to fulfil my promise, sent to you in my answer by the most effectual means that I could possibly think of, have sent the two colonels, Martin Soares Moreno and Andrew Vidal de Negreiros (both persons of unquestionable conduct and prudence), to the captainship of Pernambuco, with full power and instructions to reduce the revolted Portuguese to their due obedience, for which reason also I have sent a letter to the said rebels, to exhort them to the remembrance of their duty, and to lay down their arms. Which, that it might prove the more effectual, I have sent thither sufficient force, which may be serviceable to Your Lordships, to reduce those that remain obstinate to reason, and to chase the rebellious troops out of your dominions. I hope that with God’s assistance this may prove an effectual means to quench the fire of rebellion, to restore the peace of Brazil, and to encrease the good understanding and friendship which has been established betwixt both these nations. We recommend you to God’s protection, remaining

“ Bahia, July 21, 1645.

“ Your Lordships’ affectionate servant,

ANTONIO TELLES DE SYLVA.”

The second letter of the said governor to the council runs thus :

*The second Letter.*

“ I have dispatched my orders to Colonel Jeronymo Sarrao de Pavia, captain-major of our fleet (which I have sent to your assistance), to deliver these presents to you, immediately after the landing of the forces aboard the said fleet, and to offer in my name all the assistance he is able to give you, pursuant to my command and Your Lordships’ request. I am very ready to embrace this opportunity to give you these marks of my zeal for your welfare, especially in contributing what in me lies to the reducing of your revolted subjects to their obedience. Neither do I in the least question, but that by this expedient the flames of an intestine war will be quenched, beyond all hopes of being ever rekindled hereafter ; and that I shall have the satisfaction of having been instrumental to answer the expectation of Your Lordships, pursuant to the proposals made to me upon that account in your behalf. So recommending you to God’s protection, I rest

“ Your Lordships’ affectionate servant,

“ Bahia, July 22, 1645.

ANTONIO TELLES DE SYLVA.”

Besides these he sent another letter by Don Salvador Korrea de Saa Benavides, admiral of the Portuguese fleet, directed to the council of Dutch Brazil, as follows :

*The*

*The third Letter.*

" Whilst I was endeavouring to satisfy the request made to me by your ambassadors, and busied in embarking the forces designed for your service, under the command of the two colonels Martin Soares Moreno and Andrew Vidal de Nigreiros, together with Colonel Jeronymo de Payva, captain-major of the said forces, Salvador Korrea de Saa Benavides, admiral of this state, and a member of the council of transmarine affairs, established by authority of the King my master, happened to arrive, by God's peculiar direction, with his fleet from Rio de Janeiro, in the Bahia, in order to conduct them to Portugal. But being desirous to redouble my efforts, as well in the conduct of his person as in the strength of his fleet, to render the whole more serviceable to Your Lordships, I thought convenient to send the said admiral, with the fleet under his command, in conjunction with the rest, to the revolted captainship; not questioning, but that, by his prudent conduct and authority, he will be very instrumental in restoring the peace in your dominions, according to our utmost wishes; and I live in hopes, that this may serve as real demonstrations of the good understanding and friendship I am willing to cultivate betwixt these two states, both as a just friend and good neighbour. I recommend you to God's protection.

" Your affectionate servant,

ANTONIO TELLES DE SYLVA."

" Bahia, July 25, 1645.

The chief contents of these letters tended to persuade the great council of the Dutch Brazil, that the governor of the Bahia had, pursuant to the request made by the deputies of the said council to him, sent certain land-forces under the command of the two colonels Martin Soares Moreno and Andrew Vidal de Nigreiros, aboard the fleet commanded by Jeronymo Sarrao de Payva, in conjunction with the whole fleet of Rio de Janeiro, under the conduct of Admiral Korrea, to assist them both by sea and land, as is evident from the words of the preceding letters: he also requested by his deputies, viz. Captain Martinho de Rebeira, and Auditor-general Balthasar de Castilho, that the great-council would be pleased to acquaint the King his master with it, in a particular letter from them to His Majesty.

What deserves our particular observation in his letter to John Fernandes Vieira, and the rest of the rebels, is, that he calls them the King's subjects, unto whom he has sent this succour for their defence; yet with this restriction, in order to reduce them by all gentle means to their former obedience to the Dutch government. It being evident, that the propositions made by our deputies to the Governor Telles, tended to no other purpose than to engage him to recal Kamaron and Dias, and such others as were come to join with the rebellious Portuguese, out of the Dutch Brazil, and, in case of refusal, to declare them rebels and enemies of the King of Portugal; but he, directly contrary to the intention and request of the said council, had, instead of recalling them, sent these forces to their succours; and, instead of leaving them to the disposal of the council, had caused them to be landed in a remote place, where the said Kamaron and Dias were with their forces at that time. Neither was the council ignorant of their intention, in sending a fleet into the road of the Receif at this juncture; tending to no other end than to back the revolted rebels in their design, and to encourage the rest to take up arms against them.

The council was fully satisfied as to this point, when they received advice from the cape of St. Austin, that the garrison of Serinham had been forced to surrender to Andrew Vidal after his landing thereabouts.

Their

Their chief debate then turned upon this point, by what means this fleet might be removed from the road of the Receif and our coasts; considering, that the whole naval force of the Dutch then ready to sail, consisted only in five ships, viz. the Utrecht, Zealandia, Ter Veere, Zoutlandia, and the Golden-Doe, not very well manned, and but indifferently provided with ammunition, especially with gun-powder, and few soldiers could be drawn out of the neighbouring garrisons; whereas the Portuguese fleet consisted at least in eight or ten stout ships, the admiral being a two-decked ship, resembling at a distance one of their large galleons; so that the attacking of them appeared to be a hazardous enterprize. After mature deliberation, it was unanimously resolved in the said council, to return thanks to the Admiral Salvador Korrea de Saa Benavides, for the offered succours against the rebels, and to tell him the reasons that obliged us to desire him to retire with his fleet out of our road, as will more at large appear out of the following letter: it was thought convenient to dispatch the said letter immediately, and whilst we staid for his answer, to use all possible diligence in equipping the two before-mentioned ships, the Deventer and Elias; that if the Portuguese refused to comply with the council's request, we might be in a condition to attack them, and to drive their fleet from our coast, without which we saw but little probability to make our party good against the rebels, as long as they were backed by constant supplies from the Bahia. It was also taken into consideration, whether it were not expedient to detain one of the Portuguese deputies till such time that Jeronymo Sarrao de Payva should, according to the request of the council, come ashore in the Receif; but this proposition was rejected, for fear of furnishing the Portuguese with a new pretence of staying in our road: Mr. Gilbert de Wit and Henry Moucheron, both members of the council of justice, being ordered to carry the said letter, they went aboard the Portuguese admiral the same evening, unto whom they delivered the following letter to Salvador Korrea de Saa Benavides.

*A Letter from the Council to the Portuguese Admiral.*

“ We understand, both out of Your Lordship's letter, and those of the Governor Antonio Telles de Sylva, delivered to us by Captain Martin de Rebeira, and the Auditor-general Balthazar de Castilho, as also by the verbal assurances given to us by them in your behalf, that your coming with the fleet into our road is with no other design than to assist us with your authority and council in bringing the rebels to reason, for all which we return our hearty thanks to Your Lordship. But at the same time we cannot forbear to represent to you, that the coming with so considerable a fleet at this juncture, gives us no small cause of jealousy, not only because we never requested any such assistance, but also by reason that instead of recalling Kamaron and Henry Dias with their troops, the two colonels Andrew Vidal and Martin Soares Moreno, have, under pretence of reducing the rebels to obedience, landed their men and ammunition without our knowledge, in a far distant place, and, consequently, for the defence of the revolted Portuguese; whereas (pursuant to His Excellency the Governor's promise to us) this reduction might have been much better obtained by a severe proclamation, to oblige them to return to the Bahia; or at least the before-mentioned colonels ought to have made their first addresses to us. These proceedings have, contrary to Your Lordship's intention, drawn this ill consequence after them, that many of the inhabitants, imagining no otherwise than this fleet was intended for the assistance of the revolted Portuguese, have also begun to take up arms, in order to join with them; which obliges us to return our thanks to Your Lordship for the offered succours, desiring you would be pleased, with all possible speed, to retire

retire with the fleet out of the road ; which, as it will undeceive the inhabitants concerning the sinister interpretations of Your Lordship's intentions, so it will serve as an effectual means to keep them in quiet, which at this juncture will work upon us a singular obligation. What relates to Your Lordship's request to take in fresh water and fuel here, being ill-provided with both by reason of your sudden departure from the Bahia, we should be very ready to comply with it, were it not for the before-alleged reasons, and the badness of the season, which would make it very tedious, which obliges us to beg your excuse for this time upon that account. His Excellency Antonio Telles de Sylva having told us in his letter that he had ordered Jeronymo Sarrao de Payva, immediately after the landing of the infantry under Martin Soares Moreno and Andrew Vidal, to give us in person a full account with what power he was instructed by His Excellency, we desire Your Lordship to send the said Jeronymo Sarrao de Payva without delay to us, to confer with him concerning the instruction he has received from His Excellency, in relation to the sending and landing of these officers and land-forces. For the rest, we refer ourselves to our deputies, counsellors in our court of justice here, unto whom we desire Your Lordship to give full credit, proportionable to their own merits and the trust we have reposed in them. God protect Your Lordship.

“ Signed by      HENRY HAMEL,  
                              A. VAN BULLESTRAET,  
                              P. J. BAS,  
                              J. VAN WALBECK,  
                              G. DE WIT,  
                              J. ALBRECHT,  
                              HENRY DE MOUCHERON,  
                              J. VAN RAESVELT,  
                              and  
                              J. C. LICHTHART.”

“ Receif, Aug. 13, 1645.

This letter was pitched upon by the before-mentioned great council, as the best expedient at this juncture, till, by the conjunction of the Deventer and Elias, we might be put in a probability of dislodging them by force, if they refused to retire at the council's request.

The 14th by break of day, we saw the whole Portuguese fleet under sail, and for the most part out of sight ; and considering that the two boats, which carried both ours and the two Portuguese deputies, would scarce be able to overtake them, and that our deputies in their return were to give an account to our admiral on board his ship, whether, pursuant to the council's letter, the Portuguese admiral had consented to send Jeronymo Sarrao de Payva to the Receif, in order to open his instructions to the great council, which they had now all the reason to believe he would not, they dispatched immediate orders to our admiral Lichthart, to make all the sail he could with the ships under his command, after the Portuguese, to observe their motions, and to endeavour to come up with the flag ship, on board of which was the said Jeronymo Sarrao, to desire him to return with his ships to the road of the Receif, in order to confer with the council in person, concerning his instructions. But after mature deliberation, the whole proceedings of the Portuguese, and the letters of the governor of the Bahia concerning the pretended reduction of the rebels, being looked upon as mere amusements, orders were sent to our admiral Lichthart, to oblige all the Portuguese ships he could meet with, to strike, and to treat them for the future like enemies.

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The 28th of August, the council was advertised by letters dated the 20th, at the Fort of St. Margaret in Rio Grande, from the governor de Linge, that twelve of the enemies ships, after having landed some forces near Tamandare, were come into the bay of Traikona; and that according to the deposition of a certain Portuguese prisoner from on board the said fleet, they intended to land likewise some men thereabouts, provided they might be joined by the rebels from the Matta; but if they failed to come, they would return to the Bahia. Whereupon orders were sent to Mr. de Linge, to bring what forces he was able together, either of soldiers, Tapoyers, or Brazilians, to prevent their landing, and their conjunction with the rebels in that captainship.

The next thing under debate was, whether it were not convenient to send some ships under the command of Admiral Lichthart that way, to attack the Portuguese; after various consultations, it was agreed, to stay until all the ships might be got ready for that service, to supply the want of seamen by good able labourers from the Receif, and so to render ourselves as formidable at sea as possibly could be.

In the meanwhile, the said Admiral Lichthart set sail the 1st of September with four ships and a yacht only, he himself being in the Utrecht, but was forced by stresses of weather (in which the Zealandia lost a mast), and for fear of the rocks, to come to an anchor not far from the Portuguese, who endeavoured to gain the wind of him. Mr. de Wit and Moucheron returned also with their boat, having not been able, by reason of the violent winds to overtake the Portuguese, but had put their deputies on board a small vessel to sail after their fleet.

The same day the council received letters from Mr. Hoogstraten, Ley and Heck, from the cape of St. Austin, that the enemies had posted themselves in the sugar-mills Salgado, Surhague, and other places thereabouts; and because the Portuguese fleet, which had been seen off the bay of Traikona, appeared again in sight of the Receif the same evening, it was thought expedient to order Admiral Lichthart immediately to go on board the Utrecht, and with that and the ship Ter Veere and two smaller vessels, to keep a watchful eye over the Portuguese: care was also taken to get the ship the Overijssel ready against next day, not questioning that when joined by this and the Zoutlandia and Golden-Doe, which were sent abroad for intelligence, they should be able to cope with the Portuguese, or at least to force them out of the road. The next morning early, the Portuguese fleet might be plainly discovered from the Receif, but our admiral was not able to stir by reason of the contrary winds; nevertheless the Zoutlandia and the Ter Veere, which came from the south a cruising, made all the sail they could to escape the Portuguese, which they did, being much the nimbler sailors, and joined our fleet.

The 4th of September, Major Bayert and Mr. Volbergen complained to the council, that Mr. Vierbergen, Count Maurice's steward, had made it his business to give it out, that they being impowered to cut down certain trees, and some part of the stabling and gardens, for the better fortifying of the fort Ernestus, had transgressed their commission, in cutting down many of the great trees, with an intention, as he said, to ruin the whole plantation; whereas they declared, that they had been very careful in preserving as much as possibly could be, all the largest cocoa-trees that stood not in their way; that by these rumours, the rage of the populace had been raised to that pitch that they had much ado to appease them, they being for the cutting down not only of all the trees, but also for the pulling down of the whole palace of Count Maurice; all which they desired to be registered in the public records, to serve them for a legal defence in due time and place.

In the mean-time our Admiral Lichthart being gone out in pursuit of the Portuguese fleet, met with them in the bay of Tamandare, consisting of seven ships, three smaller vessels, and four barks, the rest being sent laden with sugar to Portugal. He was not as yet joined by all the ships from the Receif; but being resolved not to let slip this opportunity of attacking the enemy, sent the 7th of September advice to the great council, that being come in sight of the enemy's fleet near the bay of Tamandare, consisting in all of eleven vessels, he was resolved to attack them there, desiring them to send as many ships as possibly they could immediately. Hereupon it was resolved to join the two ships the Deventer and Elias, with the Unicorn and Leyden, then lying ready in the road and bound for Holland, and such tenders as were at hand, and to send them forthwith to the Admiral Lichthart. Pursuant to these resolutions, the whole next following night was spent in manning the said ships, but were the next morning detained for some time by the contrary winds.

The same day orders were given to all the soldiers and inhabitants of the isle called Antonio Vaez, to provide themselves with baskets filled with earth; and palisadoes were planted from the point of the Receif next to the river, to the utmost point near the sea-side, and five great guns were planted upon a certain wreck, from whence they could command the sea-shore as far as to the fort of five bastions.

The 8th of September, the Dutch admiral having ordered the red flag to be put up, boarded the Portuguese admiral carrying sixty guns and three hundred men: he behaved himself very valiantly, having posted himself at the entrance of his cabin with a flaming sword in his hand, wherewith he killed three or four, but having received several wounds, was at last forced to yield. The rest of the ships following the example of their admiral, had likewise boarded the Portuguese ships; but these seeing the flag taken down from the admiral (a dismal signal of her misfortune), they lost all hopes, and threw themselves headlong into the sea, to escape the fury of the fire and sword; whither being pursued by the Dutch in their boats, many perished before they could reach the shore. Above seven hundred Portuguese were killed in this action, besides a great number of prisoners, among whom was the admiral himself: three ships were taken and sent to the Receif; the rest were set on fire, being not in a condition to be carried off, because they had cut their cables and were run ashore, where the Portuguese had planted some cannon upon batteries, which so annoyed our people, that fearing they might run aground within the reach of the enemy's cannon, they set fire to them, and with much ado got their ships clear from among the shelves. After this engagement I returned to the Receif to take care of my affairs there, and the admiral sent an express in a fisher-boat, with the following letter to the council of the Dutch Brazil:

*A Letter from the Dutch Admiral to the Council.*

"No sooner were the ships Leyden, the yacht, and the Doe, arrived last night, near the point of Tamandare, but pursuant to the result of the council of war, it was resolved to enter the next morning within the bar, which was performed in the following order: first the ship the Utrecht admiral, second the Ter Veere, third the Zealandia, fourth the Overijssel, fifth the Zoutlandia, followed by the Doe and Leyden, and the yacht, the Unicorn; the tenders being ordered to be at hand as occasion should require. Being come within the bar, we found the enemy seven sail strong, besides three small vessels and four barks; and that they had planted several pieces of cannon upon two batteries on the sea-shore. We received a very warm salute both from their ships and batteries, and several vollies of small shot; notwithstanding which, the ship the Utrecht courage-

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ously laid the Portuguese admiral on board, after a short but sharp dispute took the ship and the admiral's flag: to be short, the rest of our ships behaved themselves so well, that soon after they forced the Portuguese to quit their ships; God be praised for this victory.\* Jeronymo Sarrao de Paiva the Portuguese admiral is our prisoner, and at present in my ship, being sorely wounded, whom I intend to deliver up to Your Lordships so soon as I shall come to the Receif; in the mean-while, I intend to send back the Leyden and the Unicorn to-morrow morning, according to Your Lordships directions. And forasmuch as there is likely to be no more action hereabouts, the enemy having strengthened themselves near the sea-shore, I will the first opportunity return to the Receif, where I hope to give in person a more ample account of the whole action; I commend Your Lordships to God's protection. In haste,

"Your Lordships' servant,

CORNELIUS LICHTHART."

"From the ship the Utrecht, within the  
"bay of Tamandare, September 9,  
"1645."

The Portuguese admiral Sarrao de Payva, in his letter dated the 18th of September, gave the following account of his engagement to the two colonels Martin Soares Moreno and Andrew Vidal Negreiros:

*The Portuguese Admiral's Letter to Andrew Vidal.*

"It being the general discourse here in the Receif, which is likewise come to my ears, that it is reported by you there how the Dutch admiral, John Cornelius Lichthart, did before the beginning of the last engagement enter the bay with a white flag, thus surprising our people, killed many of them in cold blood. I thought myself obliged to acquaint you, that indeed two days before the said engagement a yacht and a bark with white flags appeared at the entrance of the bay, at which one of our small vessels and a bark shot three cannon-shot. But that day, when the admiral entered the said bay, he had put up both the Dutch and red flags. Neither is it true what had been said of their killing our men in cool blood, there being not one man slain aboard my ship, but during the heat of the engagement, five or six that had hid themselves below deck having received quarter, and a soldier sorely wounded, ordered immediately to be looked after with all care imaginable. Neither was there a stroke given after the yielding of the ship, but every body treated and provided for according to his quality and present necessity. The reason why so few had quarter given them was, because most leapt overboard, the seamen first, and then the soldiers; I being not able with sword in hand to keep them from chusing rather to perish in the sea than to stand it out aboard the ship. Two or three persons of note seeing me sorely wounded, freely gave me quarter, without knowing either my person, or being asked it by me; a convincing argument that they would not have refused the same to all the rest that would have begged quarter. I must confess myself so much obliged to the humanity and generosity of the admiral, that it is not to be expressed in writing. Besides that, it is unquestionable that we first shot at them, both from our ships and batteries near the sea-shore. I have given you a true account of the whole matter, of which, as I have been an eye-witness myself, so I do not question you will give an entire credit to what I have written to you on this account. God protect you for many years.

"Receif, Sep. 18, 1645.

JERONYMO SARRAO DA PAYVA."

Andrew Vidal sent a letter in answer to this by one of our drummers (sent to the enemy upon some errand), dated the 20th of September, as follows :

*His Answer to the Admiral's Letter.*

" We are sufficiently satisfied by Your Lordship's letter, that, instead of being entertained according to your merits, you receive the same ill treatment with the rest of our countrymen ; though, considering that your case is different from the rest, you ought to have been treated in another manner, Your Lordship being come without the least intention of waging war against them, (which they ought to have made due reflection upon,) but only as you were going to convoy some ships homeward, did at their own request land our forces in that captainship ; considering the ill usage and tyrannies our subjects have received at their hands, we are afraid we cannot promise Your Lordship a much better entertainment ; of all which murders, committed in cold blood, we have taken so circumstantial an account, that we are sure we shall be able to justify our cause and ourselves, both to the states of the United Netherlands and the rest of our allies ; for we have fished up many of our Portuguese with bullets and stones tied to their legs and necks ; some had the good fortune to be saved as they were swimming ashore, but many were burnt alive in the wrecks of the ships ; the intention of these gentlemen being without question, by making so general a slaughter among their fellow-christians, to cut us from all hopes of returning home : of all which they will be obliged to give one day a severe account, both to God Almighty and those who shall require satisfaction for it at their hands, it being our constant opinion that they never will be able to justify their cruelties, and the mischief done to our people, either before God or the King our master. We hope Your Lordship will rest satisfied in this present condition, and put your trust in God and our King, who are still alive to demand a severe satisfaction from them. God protect Your Lordship.

" From our quarters at St. John in the Vergea, Sept. 29, 1645.

" (Signed)                      ANDREW VIDAL DE NEGREIROS."

A certain lieutenant belonging to the enemy, called Francisco Guomes, came along with the same drummer, with a letter from the said Andrew Vidal directed to the great council, the contents of which were as follow :

*Andrew Vidal de Negreiros's Letter to the Great Council.*

" I received Your Lordship's letter at Iguarapu, wherein you seem to be extremely disgusted at the killing of some Brazilians, with their wives, by our soldiers, under pretence that the absolute command over them belongs only to you ; which I cannot but be much surprised at, when I consider that Your Lordships in your proclamation, wherein you command not to give quarter to any Portuguese inhabitants, though natural subjects of the King my master ; you alledge, among other reasons, because they had received their birth and education in this captainship (which, however, was first conquered by the Portuguese kings at the expence of many of their subjects), whereas now you would impose this hardship upon the same inhabitants, to give quarter to those Brazilians, who not long ago have been maintained and instructed in the Catholic faith, as being their vassals, and consequently not your's, but the King my master's subjects. Your Lordships ought to remember, that you are not in possession of this country by right

right of succession, or any other legal pretension, but basely by force of arms. We desire Your Lordships to take effectual measures concerning the methods to be observed in the carrying on of this war, which we hope will be managed so by your prudence as that quarter may be allowed to the inhabitants of our nation; if not, I shall be obliged to act as I find it most consistent with my honour, to take satisfaction for these injuries. We desire also to put a stop to the murdering of the women, children; and ancient people, in cool blood, as has been done lately at Tihicupapo, Rio Grande, and Parayba. God protect Your Lordships.

“ From our quarters at St. John, Sept. 29, 1645.

“ (Signed)

ANDREW VIDAL DE NEGREIROS.”

The great council returned, with the consent of the members of the court of justice and Colonel Garfman, an immediate answer to the said letter, wherewith they sent the said lieutenant, in company of the drummer, back the same evening.

But we must look back to their proceedings: after Andrew Vidal de Negreiros and Martin Soares Moreno had landed their men, to the number of eighteen hundred or two thousand, the 28th of July 1645, with good store of arms and ammunition, near Tamandare, betwixt Olina and Formosa, they were soon after joined, not only by four companies which had taken their way by land from the Bahia, but also by the troops under the command of Kamaron and Henry Dias, who had hitherto kept Porto Calvo blocked up by their forces. From thence they directed their march to the city of Serinham, and laid siege to the fort in which there was only a garrison of eighty Dutch soldiers and sixty Brazilians, commanded by Samuel Lambert and Cosmo de Moucheron. Two days after their arrival near Serinham, the enemy posted themselves in the D’Ingenio of Daniel Hohn; about which time Henry Dias was seen in Serinham, notwithstanding the Portuguese commanders Andrew Vidal and Moreno disowned to have any correspondence with them at that time. The said commanders had also sent the Captain-major Paulo de Kunha before to summon the said fort, which he did accordingly by his letter dated the 2d of August, at the sugar-mill of James Peres, and directed to Samuel Lambert.

*The Summons sent to the Fort of Serinham.*

“ I am come to this sugar-mill by special orders from Martin Soares Moreno and Andrew Vidal Negreiros, our governors, they being very busy at present in landing their men; they have sent me before to prevent all mischief that otherwise might happen betwixt you and us; and if in the meanwhile you will join your forces with ours, or retire with them to some other place, you may safely do it, I being ready to furnish you with passes for that purpose, the before-mentioned governors being come with an intention to put a stop to the present insurrection. God protect you.

“ From the sugar-mill in St. Antonio, August 2, 1645.

PAULO DE KUNHA.”

Two days after, the before-mentioned commanders-in-chief sent another letter to Samuel Lambert, very little different from this.

*A second Summons from the Portuguese Commanders.*

"We suppose you not to be acquainted with the intention of our coming, which makes us to be the less surpris'd at your standing upon your defence. The great council of the Dutch Brazil have sent an embassy to our governor-general by sea and land, Antao Telles de Sylva, to desire His Excellency to make use of his authority and forces to appease the insurrection in this captainship, which request being readily granted, in order to be serviceable to the council, and to free the Portuguese from the outrages they suffered in their houses and families, we were sent to land our forces near these sugar-mills of Rio Formosa; which having been done accordingly, and ready to march further into the country, we thought fit to acquaint you with our intentions, which in all probability may have reached your ears, the same having been published in several places by our proclamations, of which we send you one, desiring it may be affixed on the church of Serinham. We desire you therefore to lay by your arms to remove all suspicion; not questioning but that we shall meet with a favourable reception on your side, as we on the other hand shall make it our main endeavours to restore tranquillity among the revolted Portuguese by all gentle means that possibly may be used; assuring you at the same time, that in case you refuse to concur with us in this design, you will cause no small displeasure to the great council of the Dutch Brazil. God protect you.

"From the sugar-mill of Formosa, August 4, 1645.

MARTIN SOARES MORENO,

ANDREW VIDAL DE NEGREIROS."

The next following day Paulo de Kunha came in person before the place with a body of soldiers and boors, provided with arms from on board the fleet, and after having invested the place, cut off the water of the fountains and rivers from the besieged. In the meanwhile Rowland Carpentier and Daniel Hohn had been sent away with passes by the commanders of the Portuguese forces, who embarked their heavy cannon on board Carpentier's vessel, in order to carry it up the river Formosa. Within five days of the arrival of Paulo de Kunha, the whole force of the enemy appeared in sight of Serinham in battle array, and closely blocked up the fort. The Dutch garrison was inconsiderable in proportion of the enemy's strength, who had so well-guarded all the avenues leading to the place, that they were soon reduced to want all manner of necessaries, especially water. Besides this, many of the circumjacent inhabitants and volunteers went daily over to the enemy, who gave them an account of the condition of the fort; and notwithstanding they had sent several messengers to the Receif, they had heard nothing from the council for two months last past; so that being without all hopes of maintaining their post, they judged it more for the interest of the company to preserve the garrison, which might be serviceable in other places, where there was sufficient want of good soldiers, than rashly to expose themselves to the fury of the enemy's sword: accordingly Samuel Lambert, Cosmo de Moucheron, and La Montagny, who commanded in the fort, upon the second summons made by the enemy, entered the 6th of August into a capitulation with the Portuguese, of which Moucheron gave an account in person the 15th of August to the council, and delivered it the 20th of August to them in writing.

"We the Portuguese commanders make known to every body that we were sent into this country at the request of the great council of the Dutch Brazil, to appease the

the revolt and troubles arisen among the Portuguese inhabitants. But at our landing here, being informed that notwithstanding this request and our good intention, the Dutch had murdered many Portuguese in cool blood (it being evident that they had cut to pieces several Portuguese, who were inticed into a church for that purpose), and that they had formed a camp to oppose us, which ought to be a caution to us, not to leave any strong holds behind us, whilst we are marching towards the Receif, we have thought it necessary to enter into this capitulation, till such time that we may have the opportunity of concerting new measures with the great council, of which the articles are as follow :

“ I. The commanders Samuel Lambert and Cosmo de Moucheron shall have leave to march out of the fort and castle, with the garrison, with ensigns displayed, all their arms, matches burning, &c.

“ II. They shall be permitted to march along the road with their ensigns, and swords drawn, and shall be safely conducted by one or more captains, who also shall be obliged to provide them carriages and boats, for the transportation of their persons and goods to the Receif.

“ III. The Portuguese oblige themselves to restore to Moucheron all what has been taken from him, and belonged to him before the siege.

“ IV. They also oblige themselves to engage the inhabitants of the city as well as those of Kamara, to pass by all past injuries either by word or deed ; and that such of the Dutch as are willing to continue there, shall be maintained in their possessions in the same manner as the Portuguese are ; and shall enjoy the same privileges and their own religion, provided they do not preach in public, and pay due reverence to consecrated places. They shall be at liberty to traffic with the Portuguese, and call in their debts as before, neither shall they be obliged to take up arms against the states of the United Provinces.

“ V. The Dutch officers shall restore to the Portuguese all their Brazilians, with their wives and children, as being subjects of King John IV. whom God preserve ; and what relates to their reception and entertainment, is to be left to the discretion of the chief commanders of the Portuguese.

“ Upon these conditions they shall be obliged to surrender the fort, with every thing thereunto belonging, this afternoon, but are permitted to provide themselves with necessaries for their journey, which they shall have liberty to perform at their own leisure.

“ (Signed)

ANDREW VIDAL DE NEGREIROS,  
ALVARO FREGOSO D'ALBUQUERQUE,  
DIOGNO DE SILVEIRA,  
LOPES LAURENZO,  
FEREIRO BETENKOR,  
SUPPOLITO ABUKO DE VERKOSA, and  
SEBASTIAN DE GUIMARES.”

Immediately after the surrender of the fort, Moucheron entered into a long discourse with the Portuguese commanders, about their proceedings, which he told them were far different from what the governor pretended in his letters, to wit, the appeasing of the revolt of the Portuguese inhabitants, according to the request of the great council. They answered him with tergiversations, telling him that they would be very careful not to act contrary to the peace established betwixt the King his master and the States-General.

**General.** But it was not long before they began to load it over the country, by taking such as were in the least suspected to them into custody, and taking an account of those of the Dutch that had married Portuguese women; nay, they erected a court of justice of their own, and forced Moucheron to sell his slaves for the fourth part of what they were worth. They had so little regard to the late articles, that they caused thirty Brazilians, part of that garrison, to be tied to the palisadoes, where they were strangled; the Portuguese alledged in their behalf, that they had suffered death for certain crimes they had confessed themselves, though it is more probable they were made sacrifices to the discontented Portuguese inhabitants, that had made heavy complaints at the Brazilians. However, about thirty of them were spared, and bestowed upon the officers to carry their baggage, and their wives given to the inhabitants. The Portuguese made Alvaro Fregoso d'Albuquerque governor of the city and fort, and made one Francis de la Tour, a French deserter, captain over forty deserters, who had taken service among them.

They also raised three companies out of the Portuguese boors or inhabitants, commanded by Pedro Fregoso, Ignatius Ferrere, and Immanuel de Mello, which were put into Serinham for the defence of that place, where they also caused two Jews to be baptized, called Jacquo Franco and Isaac Navare. Most of the Dutch who had any possessions or sugar-mills thereabouts had safe-guards allowed them, so that none, except two, who came to the Receif, left that captainship, of which they had sufficient reason to repent afterwards, being very ill-treated by the Portuguese, as shall be shewn more at large hereafter.

The 15th of August in the afternoon, the garrison of Serinham, consisting only of thirty-two men (the rest having staid behind), arrived in a bark at the Receif; and their commander-in-chief appeared the same day before the council, where he gave an account of the reasons that moved him to surrender the place, notwithstanding which he was ordered to be examined by a court-martial, to answer the same. The ensign who had conducted the garrison to the Receif, delivered the same day a letter to the said council, from Martin Soares Moreno and Andrew Vidal, dated the 8th of August, intimating that they were come into the Dutch Brazil, by special command from the governor of the Bahia, and exasperating the outrages, they said were committed by the Hollanders against the Portuguese. This letter had another enclosed from the said governor, dated the 30th of July, with a proclamation, to be published in the captainship of Pernambuko, whereby all the inhabitants were summoned to appear peremptorily before them, within the space of eight days, to receive their directions for restoring tranquillity among them. The letter from Martin Soares Moreno, and Andrew Vidal was as follows:

*A Letter from the Portuguese Commanders to the Council.*

“When Your Lordships found yourselves entangled by a dangerous conspiracy among the Portuguese inhabitants of this captainship, you made your applications to Antonio Telles de Sylva, governor-general of Brazil, desiring him to make use of the most effectual means he could to appease this rebellion. About the same time the inhabitants of this country by one unanimous voice implored his aid and protection against those many affronts, plunderings, murders, and ravishments of women they groaned under; being resolved with joint consent to arm themselves with sticks (the use of arms being taken away from them by their tyrannical governors) against those oppressions, and to defend their honour to the last gasp; not questioning but that God Almighty would take vengeance for

for the blood of so many innocent people. They represented to His Excellency, that he was obliged by his station to assist them in this extremity, as they were his countrymen; but if that should not be prevailing enough, reasons of state would induce him not to force them to despair by denying them his aid; which if he did, it should be at the peril of his head, and that he must give a severe account of it before God Almighty, and others, if they should be constrained to beg that from a foreign power which they could not obtain from their countrymen. The governor having taken all these pressing reasons into mature consideration, and in respect both of Your Lordships' request, and the heavy complaints of the Portuguese, made it his chief care to find out the most effectual means (which Your Lordships seemed to leave to his discretion) to appease this revolt. Being sensible that the revolt of the Portuguese inhabitants had taken deep root among them, and was likely to prove more universal against your government, he judged it most expedient to send hither certain persons with such forces as he thought might either by their prudence, and if that failed, by force of arms, restore the so much-desired tranquillity. It is upon this account, my Lords, we are come to this place, in order to employ all our force and assistance, according to your request, pursuant to the peace established betwixt these two nations, in regard of which we value not the expences we have been put to upon this occasion. But we scarce had set foot ashore, when our ears and hearts were struck with the doleful outcries of forty innocent Catholic Portuguese, murdered in the church of Rio Formosa, whither they were enticed for that purpose, by those that were in your service, without the least respect of age or sex, the very babes being by the natives barbarously murdered as they were lying on their mother's breasts. Neither have the sighs and groans of many noble maids escaped our ears, that were ravished in the Vergea and St. Lawrence, by the Brazilians, not to mention here what barbarities have been committed in Pojuka, where is the sight of many a hermit and innocent babe who were slaughtered in a cave. Neither have they abstained from holy and consecrated places; they have cut to pieces the images of the saints, and stripped the queen of heaven, the virgin Mary, our blessed lady, of all her apparel; things so enormous, and never heard of before, enough to create horror and astonishment in a generous heart. And notwithstanding Your Lordships had desired the governor-general to interpose his authority, you did form a camp, which continues in the field to this day; and we being obliged by our orders to come to you upon the Receif, we judged it not convenient to leave any armed power behind us, which in time might prove the occasion of great inconveniences to us; we shall endeavour to shew all due respect and kindness to your subjects, and carry the garrison of Serinham along with us, until matters may be concerted betwixt Your Lordships and us, for the service of God and the state. In the meanwhile, we most earnestly desire a stop may be put to the outrages committed by your soldiers hitherto, to avoid all occasion of a rupture on your side; we protest on the other hand, in the name of God and John IV. the King our master, whom God preserve, as also in the name of the States-General, whose power God encrease, that we desire nothing so much as the continuation of the late established peace, which shall be the guide of all our actions; of which we have brought along with us an authentic copy, to serve us as a sufficient justification by all the princes of Europe. And that Your Lordships may be satisfied in the reality of it, we have sent you enclosed a copy of the proclamation published by us, at our landing in this captainship. God preserve Your Lordships.

“ Serinham, Aug. 8, 1645.

MARTIN SOARES MORENO.

ANDREW VIDAL DE NEGREIROS.”

The

The before-mentioned proclamation runs thus :

*Their Proclamation.*

" We the commanders-in-chief of the Portuguese forces, Martin Soares Moreno and Andrew Vidal de Negreiros, make known to all persons and inhabitants of the captainship of Pernambuco: that the great council of the Dutch Brazil, having by a letter sent to the governor and captain-general of Brazil, given advice of the revolt arisen among the Portuguese of this place, desire to endeavour the appeasing of this rebellion by his assistance; for which purpose the said governor now having sent us with a sufficient force into this captainship, we command all the Portuguese, of what condition and quality soever, to appear peremptorily within eight days after the publication of these presents before us, in order to restore tranquillity among them, pursuant to the request of the lords of the council of the Dutch Brazil. We also hereby entreat the said lords, in the most friendly manner that can be, pursuant to the tenour of the strict alliance there is betwixt both these nations, to stop the further persecution of the Portuguese, or any other warlike executions, and that if any of their soldiers presume to act contrary to it, they may, upon complaint made thereof to them, be severely punished.

" I Alexes Autunes have penned this proclamation, and I Franco Bravo Desembarquador have approved it.

MARTIN SOARES MORENO.

ANDREW VIDAL DE NEGREIROS."

The great council resolved to give a short answer to the said letter, and to refute the proclamation by another; and considering, that the origin and cause of all those troubles and misdemeanours were laid at the door of the council, they ordered the two counsellors of the court of justice, De Wit and Moucheron, in conjunction with Mr. Walbeck, assessor in the same court, to answer the same, and thereby to represent to the council of Nineteen in Holland, that they were occasioned by the rebels and their adherents.

In the month of August, the troops lately come from the Bahia marched from Serinham to Pojuka, and so to the cape of St. Austin, where, being joined by the forces under the command of Kamaron and Dias, and the inhabitants, they resolved (after our men had quitted Pojuka and the city St. Antonio de Cabo) to attack the fort Vander Dussen on the cape of St. Austin from the land-side; pursuant to which resolution they posted their troops all along both sides the river.

The council in the meanwhile being forewarned of the enemy's design, had ordered, the 2d of August, Mr. Adrian Bullestraet, one of their own members, and Admiral Lichthart, to go thither with all speed, and to take effectual care that nothing might be wanting for the defence of the place. They were for that end to take a full view of the fort Vander Dussen and all its out-works, and to consider whether the redoubt upon the hill called Nazareth, and the battery at the entrance of the harbour, might be repaired for the better defence of the fort. Accordingly Mr. Bullestraet and Admiral Lichthart left the Receif the 5th of August, and arrived the same evening in the fort Vander Dussen, where, having executed their commission, Mr. Bullestraet returned the 9th of August to the Receif, where he gave the following account to the council.

That he left the Receif the 5th of August, in the morning about nine o'clock, and came the same evening to the fort Vander Dussen on the cape of St. Austin.

That the 6th of August, after forenoon sermon was ended, he rid with the admiral, and some other officers, to the hill of the cape of St. Austin; where, having taken a view

view of the harbour, he found the stone redoubt in a condition to be repaired, without any great charge, the cannon upon the batteries nailed up, but the works towards the sea-side in pretty good order.

That he had ordered a draught to be made, to surround the redoubt with palisadoes, to raise a battery within it, to build a guard-house, and to widen the ditches. He had also ordered a stone breast-work (for want of wood) to be made on the back-side of the battery, with a row of palisadoes, and a guard-house; and that with the first fair weather, they should set on fire all the bushes and brambles on the said hill, and clear the ground round about the church Nazareth.

Upon view of the fort Vander Duffen, he had commanded the major Hoogstraten with all possible speed to put it in a good posture of defence, the admiral having already taken care to have it surrounded with palisadoes. That on the 7th of August, having paid off the garrison, and those belonging to the artillery, he passed through very difficult ways to St. Antonio, where he likewise paid off the soldiery, visited the retrenchment, and put every thing in the best order he could.

That he had bargained with certain persons to repair the said redoubt on the hill called Nazareth, and the stone breast-work, the building of two guard-houses, and surrounding both the works with palisadoes, according to his draught, for nine hundred guilders, the whole to be completed within three weeks time. Here it was he had the first notice of the landing of some forces from the Bahia, near Rio Formosa, by the same fleet which the week before was seen off the Receif. But not being able to get any sure intelligence, he had sent a messenger to Lieutenant Montangie, then commander in Serinham, to give him a true account of the matter, and in what condition he and his garrison were at that time; encouraging him by fair promises, all communication by land being already cut off betwixt them. Here he also listed thirty-eight volunteers that offered their service.

That the 8th of August he left the said place, and notwithstanding the badness of the weather, rid across the hills of Hegendos to the sea-shore, where, meeting with the admiral, they went together up the river Sangado with the tide, as far as Calandaria, where they stayed for some time, and received the news, that in the last encounter betwixt Colonel Haus and the rebels near that hill, above two hundred of the last, among whom were some officers, were slain, and about forty or fifty on our side. One Melchior Alvares came on purpose to tell them, that about three hundred of the revolted inhabitants were inclined to accept of a pardon, which he referred to the council.

That being ready to take horse in order to his return to the Receif, a certain soldier of our troops, that had been left behind, complained that he had been stripped stark naked by the servants of the ferryman of the river Sangado, who had wounded and beat him miserably. Melchior Alvares was ordered to take care of his wounds, and Captain Pistor to go with twenty of his men in quest of these villains; who, coming to the ferry, beset the house, took the ferryman and his three sons prisoners, but the mulat, who had committed the fact, escaped their hands.

That he pursued his journey on horseback towards the Receif, notwithstanding the violent rains, and not without great danger passed the river the same night near the fort Emilia.

That on the 9th of August he was advertised by some negroes belonging to Moses Navarre, whom he had sent with letters to D'Ingenio Surfacque, that an ambush had been laid for them near Candalaria, but the enemy durst not attack them, their negroes being all such as were taken prisoners, and afterwards made their escape to us.

Major

Major Hoogstraten sent advice by his letters on the 13th of August, to the council, that the garrison and volunteers of St. Antonio being safely arrived on the cape of St. Austin, they were now about two hundred and eighty strong, viz. two hundred and seventeen soldiers and gunners, and sixty-three volunteers. That immediately after our garrison had left St. Antonio, Kamaron and Henry Dias had posted themselves with their troops in the sugar-mill Algodais, near that place, where they expected to be joined by Martin Soare's and Andrew Vidal's forces, safely arrived from the Bahia. That he expected every day to be besieged, and feared nothing so much as want of fresh water, the spring being cut off by the enemy. Hereupon immediate orders were given by the council to send thither thirty barrels of water, some ammunition and provision, and what else should be requisite for a vigorous defence of the place, which was sufficiently provided before with soldiers. The next following day they received intelligence from Major Hoogstraten, Mr. Ley, and Mr. Heck, that the enemy's troops had taken post in the sugar-mill Salgado Zuvisiaque and other circumjacent places. The council relied much upon the bravery and fidelity of the officers within the fort, from whom they promised themselves a very vigorous defence, they being all persons who had advanced themselves in their services, and were in expectation of better preferments, viz. Major Hoogstraten, Caspar Vender Ley, formerly a captain of horse, John Hick, and Albert Gerritson Wedda, an old captain belonging to the company: but their unfaithfulness and covetous temper over-balanced all these considerations; for the said Major Hoogstraten, commander-in-chief, with the consent of Caspar Vander Ley, and Albert Gerritson Wedda, treacherously and villainously sold and surrendered the said fort to the Portuguese, the 23d of August, for the sum of eighteen thousand guilders, besides some other rewards promised them upon that account. They went over with the whole garrison to the enemy, who made Hoogstraten colonel of a Dutch regiment, raised out of these and other soldiers of several nations, that had deserted our service. Thus this strong hold was betrayed to the Portuguese, by a person who owed his whole fortune to our company.

Martin Soares Moreno gave the following account of the surrender of this fort to the governor, Antonio Telles de Sylva, in his letter, dated from the hill of Nazareth, August 26, 1645:

*A Letter to the Governor of the Bahia, concerning the taking of the Cape of Puntael.*

" Sunday the 23d of this month, God Almighty, through his mercy, has put us into the possession of the fort of the cape of Puntael, which was besieged by Andrew Vidal de Negreiros: the next day we were rejoiced with the money sent us by Your Lordship, and the wine presented to me in particular, part of which I have bestowed upon entertaining some of our friends, who are merry with me at this time.

" We have made an excellent bargain: for, besides the importance of the place and its artillery, we have got the very flower of their soldiers; besides that, this will be like a signal to the rest to follow their footsteps.

" John Fernandes Vieira has raised, on Saturday last, the sum of four thousand ducats for our use, though not without force, but it was very welcome to us at this time, when we were upon striking up the bargain for the better fortifying of this place, the harbour of which is not inferior to that of the Receif: but I will not trouble Your Lordship any longer with this point.

" Not long after the surrender of the fort, a bark appeared in sight, sent to its relief from the Receif. We sent Captain Barreiros, with a well-armed bark, out

against

against her, who took her, with thirty-five men, and good store of gun-powder and bullets, all which will prove very serviceable to us.

"I kindly desire Your Lordship, that in case you send a messenger with this news to His Majesty, Captain Damian de Lankois may be employed upon that errand, it being very probable that the King, besides a good present, will reward him with some honourable employment.

"Last night we received advice, that the fleet under Jeronymo de Payva was entered the bay of Tamandare; I am sorely afraid they will be attacked by the ships sent thither from the Recife, notwithstanding we have desired him several times to come into our road.

"Kapivara is gone from that place by land to the Bahia, perhaps he has given him notice that we are masters of the cape; if he thinks fit to bring his fleet to this place, he is safe, if not, it lies at his door. It is discoursed here, that the ship the Bishop is missing, perhaps he has a fancy to convoy Salvador Korrea some part of the way.

"I cannot forbear to let Your Lordship know how much you stand indebted to Major Dieterick Hoogstraten, and the rest of the commanders of the fort. We have promised to the first a commandery of Christ. I beg of Your Lordship to make my promise good to him in His Majesty's name, as soon as possible may be, he being a person who will be ready to do us all the further service he can. We have, for the present, engaged him with some presents of less moment, of which we shall give an account to you hereafter. Captain Vander Ley has likewise deserved well of us, and so have all the rest that had married Portuguese women: it is reported here that he is a person of note in his country: we have likewise promised to him a commandery of Christ, and a yearly pension for one of his sons: we hope Your Lordship will not refuse to make good our promise, because his sons are born of a Portuguese woman: the name of the eldest being John, and the youngest Caspar Vander Ley. The rest are at present at their habitations, as soon as they return we must engage them with some promises, of which we will give an account to Your Lordship. They are all of consequence to us, having married Portuguese women. I hope Your Lordship will be well satisfied with this piece of service, for John Fernandes Vieira sometimes brings us more money in an hour than the conquest of the cape costs us. He is at present in the Vergea among the barbarians, and we in the fort in the cape, till we have got every thing in readiness. Kapivara is about three days ago gone by land, possibly he may be with you before the bark which carries this letter; I wish it may arrive in safety, and to Your Lordship a long life for the defence of this state.

"(Signed)

MARTIN SOARES MORENO."

Martin Soares Moreno and Andrew Vidal de Negreiros had in the meanwhile sent seven or eight letters from the cape of St. Austin, dated the 23d, 30th, and 31st of August, and the 2d and 6th of September, in which they advertised the Admiral Payva, that they were in possession of that cape, desiring him by all means to come with his fleet into that harbour. The first of the two last letters was thus written:

*Letter from the Portuguese Commanders to Admiral Payva.*

"My Lord,

"We are got now into the possession of the harbour of Nazareth, and that, as the saying is, without casting an anchor; which is the reason we intreat you likewise to  
come

come with your fleet hither, where you may careen your ships, and provide yourselves with fresh provisions, men, ammunition, and all other necessaries, till such time we shall mutually agree in what is further to be undertaken for the service of God and His Majesty. The enemy has hitherto but one ship of strength at sea, the rest being of no consequence; neither are they for engaging with you at this time, but endeavour to cut off your communication with the sea-coast. My Lord, you have given so many proofs of your courage before this time, that this retreat will not abate any thing from the fame of your victories: on the other hand, you have to consider, that you are answerable for so many thousand lives of those that are in your fleet; wherefore we desire you once more to come hither with the fleet, and such officers as are under your command, where you will meet with a very kind and comfortable reception. But being sensible that it would be a gross error in us, to urge a matter so evident it itself any further, to so great a commander as you, we live in hopes of your coming, where we intend, in the house of Nazareth, to receive the blessed sacrament, which name we have given to the fort, having, among other things, found a mass-book here, which is of no small service to us. God preserve Your Lordship.

MARTIN SOARES MORENO, and  
ANDREW VIDAL DE NEGREIROS."

"Puntael, Sept. 2, 1645.

The contents of the second letter to the same admiral are as follows:

"Your Lordship being already acquainted with our being masters of the Puntael (cape), we hope you will take the first opportunity of coming to us; the enemies having two squadrons of ships at sea, with one fire-ship, to force you from this coast, which has been discovered to us by a letter writ at the Receif, and directed to the governor, and taken by us in a bark designed for the relief of that place, of which we thought fit to give you immediate notice, that you might take your measures according to your wonted prudence. These Dutch gentlemen have, by their treacherous dealings, obliged us to have recourse to open force, and we desire Your Lordship to repay them in their own coin, with fire and sword, as they do us. If you design to come hither, it must be done speedily, all delay being dangerous at this time. We have a true copy of this letter in our journal to serve for our justification hereafter. God preserve Your Lordship.

"Dated in the Puntael of the Blessed  
Sacrament, Sept. 6, 1645.

MARTIN SOARES MORENO, and  
ANDREW VIDAL DE NEGREIROS."

An account of the surrender of the cape of St. Austin, and of the further transactions betwixt us and the Portuguese, was sent in a letter by Caspar da Costa d'Abreu, from the said cape to his friend Domingos da Costa, an inhabitant of the Bahia, which runs thus:

"I wish this letter may find you in good health, as I who am your faithful comrade desire; I am in a tolerable good condition in the Puntael of Nazareth, which after a siege of twenty days was surrendered to us at an easy rate, because those who commanded within the fort, had Portuguese wives, and their estates thereabouts. The captain of horse was the most forward of all in surrendering the place; they have obtained what conditions they demanded, and a gratuity of four thousand ducats besides. We found in the fort three hundred Dutch, of their best troops, and twelve brass pieces of cannon, four of which were four and twenty-pounders, and provisions for three

three months; so that if they had not come with us to a composition, it would have cost us abundance of men, whereas now we have gained the place with the loss of one single man, who was killed by a random cannon-shot. We made ourselves masters of a bark, firing from the Puntael, before its surrender, in which was a gentleman with several hundred men that were going to the Receif. This gentleman and another of Serenham (being both magistrates in their respective places) we delivered up to the inhabitants, who soon killed them, notwithstanding one was married with a Portuguese woman; for they having been heard to say, that they hoped to wash their hands in the blood of the Portuguese, the women were so much exasperated against them, that they soon dispatched them according to their desires. The prisoners are for the most part detained at St. Anthony, in order to be sent to the Bahia; but many among them have taken service with us. We suppose the number of the dead and Dutch prisoners amount to near thirteen hundred: we have not seen the squadron under Salvador Korrea de Saa; we are afraid some misfortune has befallen him; some of our ships were cruising hereabouts, but within these three or four days none of them have appeared on this coast. The Dutch have a fleet of twelve ships at sea, it is well if they do not venture a brush with us. The Receif with all its forts are invested; Lawrence Karneiro is at Porto Calvo; the Jews report, that orders are come to take all the Dutch forces out of Rio Grande, Parayba, and St. Francis, in order to transport them to the Receif. There is no great harmony betwixt the Jews and Dutch, the first pretending that the others intend to sell the country. Four of their head officers, which are our prisoners, are ordered to be sent to the Bahia, and among them their master of the artillery. The same day that we were become masters of the Puntael, a bark arrived there from the Receif with orders to keep it to the last extremity; we took the bark with good store of ammunition and provision, worth in all about fifteen hundred ducats.

“ Sept. 5, 1645.

CASPAR DA COSTA D'ABREU.”

From this and the following letters it is apparent that Major Hoogstraten had laid the foundation of his treacherous design of betraying the cape of St. Austin to the Portuguese, long before; to wit, ever since he with Mr. Balthasar Vander Voerde was sent to the governor of the Bahia, Antonio Telles de Sylva. Thus a certain serjeant sold a redoubt near the city of Olinda to the enemy for three hundred guilders.

At the beginning of the siege of the cape of St. Austin, Andrew Vidal de Negreiros sent two letters to Major Hoogstraten, Ley, and Heck, by one John Guomes de Mello, dated the 13th of August; in the first of which the said Vidal complains of the ill-treatment and murders committed upon the Portuguese by the Dutch; in the second he requests them to declare, pursuant to the promises made by Hoogstraten in the Bahia, for the King of Portugal, and to deliver the fort into their hands

*Two letters from Vidal to Hoogstraten.*

The first was as follows:

“ I am come this morning to the village of St. Antonio de Cabo, in hopes of receiving news from you and Captain Ley. I give by these presents, notice to you, that we are sent hither by order from the governor Antonio Telles de Sylva, with no other intention than to appease the troubles lately arisen in this country, pursuant to the request of the council, of which you are a sufficient witness. No sooner were

we arrived at Tamandare, but we received many informations directly contrary to what we expected to meet with here; viz. that in Rio Grande thirty seven inhabitants had been murdered, many virgins deflowered, and the image of the virgin Mary grossly misused by the Dutch; things so abominable in themselves, that it is scarce to be imagined so brave a nation should be guilty of such enormities. Whilst I am writing this letter, news is brought me, that the Dutch have caused many of the inhabitants of Goyana to be murdered, though I can scarce give credit to it: for supposing this to be true, we could not avoid giving assistance to these miserable people, though they were the most despiseable of all nations, considering they crave our help, and are not only Christians, but also subjects of the King our master, whom God preserve. Whilst the council was in expectation of the issues of the intended accommodation, they have surprized and killed many of the inhabitants, which obliges us to require you in the name of God, of His Majesty, His Highness, and the States-General, not to give any occasion for a rupture, but to maintain the late concluded peace to the utmost of your power, as we are ready on our side to concert all possible measures with the commander-in-chief of this place, which may tend to the tranquillity of both parties. The bearers hereof are Captain John Guomes de Mello, and Lieutenant Francis Guomes, who we desire may be dispatched back-with all possible speed. God preserve you for many years.

" August 13, 1645.

ANDREW VIDAL."

The second letter was written thus:

*The second letter.*

" Your promise made to us in the Bahia, and what has since been told by Captain Ley to John Fernandes Vieira and Captain John Guomes de Mello, encourages us to proceed in our former design, not questioning but that both you and Captain Ley will not in the least recede from the engagement you have been pleased to oblige us with, and to tie us to your service. We are come into this country at the head of three thousand chosen men, backed by two squadrons of men of war well equipped, one of which has not as yet appeared on this coast, the other you have seen yourself pass by the other day. I hope this may serve as a means to set the poor miserable inhabitants at liberty; and as both they and we wish for nothing more than to see you embrace our side, that we not want an opportunity to give you more evident proofs of our respect and affection towards you, so we desire you not to entertain the least sinister suspicion of us; we being ready (for the performance of which we by these presents give you our words) to accomplish in every point, what has been promised to you, by John Fernandes Vieira and John Guomes de Mello. And I for my part assure you, that I will not fail to perform and agree to whatever you shall further demand upon this occasion.

The inhabitants of this place shall be provided with passports, and protected by us, in the same manner as the commander of Serinham, Carpentier, and some others were; and we expect the same at your hand. And that you may be sure whom to treat with upon this account, we have sent to you John Guomes de Mello, who is intrusted with the whole matter; which if you refuse to do, we must take such measures as we shall judge most expedient for us. In the meanwhile God preserve you for many years.

Your affectionate friend and servant,

ANDREW VIDAL DE NEGREIROS."

Major

" St. Ant. de Cabo, Aug. 13, 1645.

Major Hoogstraten, Mr. Heck, and Ley, sent an answer to this letter immediately, containing in substance, that they were not in the least concerned in the outrages committed by the Tapoyers against the Portuguese, and seemingly refused to treat with De Mello. It runs thus :

*His answer to them.*

“ We have received your letter sent by John Guomes de Mello, out of which we understand, that you are come to St. Antonio. We are extremely well satisfied, that the governor Antonio Telles de Sylva has undertaken to appease the tumults arisen in these parts, and do not question but that your presence will contribute much towards the accomplishment of it. The affronts and outrages you speak of by the Tapoyers and Dutch soldiers put upon the inhabitants, as they were committed solely against our will, so I can assure you, that nobody, not so much as the least child, has been suffered to be misused upon our accounts, so that these complaints must not be made to us, but ought to be referred to the council. The treaty you propose with Captain John Guomes de Mello, and Lieutenant Francis Guomes, is beyond our province and power, so that we earnestly desire you not to use any further solicitations to us upon that account. So we kiss your hands, recommending you to God's protection. We rest

“ Your servants and good friends,

CASPER VANDER LEY.

D. VAN HOOGSTATEN.

JOHN HECK.

Major Hoogstraten took care to send these two letters, together with their answer, to the council, with repeated assurances of their constant fidelity ; whereupon the great council confirmed Hoogstraten in his government, and exhorted Ley and Heck to persevere in their brave resolution, which they would in due time take care to reward with better preferments. This discovery of the enemy's letters being looked upon as an undeniable proof of Mr. Hoogstraten's sincere intentions, had such an influence upon the generality of the people, that there was scarce any body but what thought himself secure of his fidelity and duty. Nevertheless, as these temptations could not but raise some jealousy in the minds of the council, they thought fit to send Colonel Haus to the Receif, to order him to the Cape of St. Austin.

The council in the meanwhile being, by Vidal's letters to Hoogstraten, sufficiently convinced, that the intended recalling of the rebellious troops were nothing but amusements, sent immediate orders to their admiral Lichthart, that, for the future, he should treat all the Portuguese ships he could meet with as enemies.

The 15th of August, Colonel Haus being come to the Receif, proposed to the council, that he judged it absolutely necessary for the service of the state, that since by the succours come from the Bahia to the assistance of the rebels under Martin Soares Moreno and Andrew Vidal, they were grown very strong and numerous, the troops encamped in the field should be drawn into the Receif, because they being, besides the Brazilians, not above three hundred strong, they might easily be cut off in a place where they could not be seconded in the Receif, where they were wanting for the defence of that place, which being the capital of the whole Dutch Brazil, would, in all likelihood, be attacked with the utmost vigour by the enemy.

Against this opinion many reasons were alleged too.

I. By so doing, they must quit all the open country from whence they were now supplied with cattle and meal, which they stood highly in need of, till such time that they could receive new supplies from Holland, and that, in such a case, they must expect the enemy immediately at their gates.

II. That thereby the number of the enemy would be increased; the inhabitants of the country, being freed from the dread of our troops, would join with them against us.

III. That by so doing, we must leave the Tapoyers, that had taken up arms at our request, and were to be joined by our troops near Machiape or St. Antonio, to the enemy's mercy. To this, it was answered,

1st, That as to the supplies of cattle and meal from the country, they should be in a much better condition to be furnished withal when their forces could be sent aboard into all circumjacent parts of the country, whereas now they were forced to remain in one certain place. Besides that, we being masters at sea, might embark at any time a certain number of men, and land them where we found it most convenient, which would oblige the enemy, instead of besieging the Receif, to divide his forces, for the defence of the country. What related to the increase of the enemy's forces, by the accession of the Portuguese inhabitants of the country, was to be looked upon as of no great consequence against us; it being more for our interest to see them appear as declared enemies than dissembling friends; it being generally known, that their inclinations were bent for their countrymen, and that, notwithstanding all their specious pretences, they missed no opportunity of giving intelligence to the enemy of what passed among us; whereas, if they were once declared enemies of the states, we should have a fair opportunity of seizing upon their cattle, provisions, and other moveables, for the use of the Receif; which being thus provided, would discourage the enemy from attempting to reduce it by famine.

What was alledged concerning the danger of the Tapoyers, was acknowledged to be of no small moment; but, considering they had received no news as yet of their motion, it was not judged of such vast consequence, as to be put in balance with the welfare of the whole Dutch Brazil, which depended in a great measure on the safety of these troops.

After mature deliberation of the whole matter, it was resolved, on the 15th of August, by the council, with the approbation of the members of the court of justice, that, considering the danger the troops were exposed to, and that on their safety depended the preservation of the Receif, they should with all possible speed march thither, and that only fifty men should be left in the house of De Wit, under Captain Wiltchut, in order to command some part of the circumjacent country, and to serve as a retreat for our parties that should be sent abroad to fetch in cattle, and farinha or meal.

Pursuant to this resolution, Colonel Haus went thither on horseback the same day, to put it in execution the same evening, if possible he could, or, at farthest, the next morning. But it seems Colonel Haus was so neglectful, as to delay the march of these troops not only that afternoon, but also the whole next following day; and, instead of retreating towards the Receif, tarried in the same sugar-mill, without having the least intelligence of the enemy's approach; so that on the 17th of August, being surprised by the troops of Andrew Vidal, much more numerous than his, before they could betake themselves to their arms they were put to the rout. The council being advertised, that Colonel Haus with his troops were attacked by the enemy in the sugar-mill of M. de Wit, they called the city militia to their arms; Mr. Bullestraet and De Bas went to the house of Bavista; from whence, as being nearer at hand, they might give the necessary orders, according as they should receive advice from Haus: and twelve fire-locks

were

were posted in this house for the better security of the bridge across the river. Dieterick Hamel, and the counsellors of justice, took care to look after the Receif. Immediately after, word being brought to the council that Colonel Haus had been overthrown, and was retired to the house of De Wit belonging to the sugar-mill, it was consulted, whether by any means they might be able to relieve him; and, though by reason of the weakness of the garrison, it was no easy matter to do it, nevertheless, it was resolved, with one hundred volunteers of the inhabitants, and one hundred and fifty soldiers, to attempt his relief. But before this could be put in execution, a certain Brazilian that had been present at the whole action, and having, by changing his clothes with a Portuguese, found means to escape the Receif, brought the unwelcome news, that Colonel Haus, with the forces under his command, had surrendered the house belonging to the sugar-mill, and themselves, upon promise of quarters, at discretion.

It was generally believed, that this misfortune was chiefly occasioned by Colonel Haus's own neglect, who did not, till it was too late, put the soldiers into a posture of defence, which was afterwards confirmed by the deposition of William Jacobson, late captain-lieutenant of Colonel Haus's own company, made before the great council the 6th of July, 1646.

It was not till the night before our defeat, that Colonel Haus received the first intelligences from a prisoner, a negro, that the enemy, with a strong body, were broken up from Moribeca. The next morning, one of our safe-guards brought word to the colonel, that the enemy was passing the river; and soon after, the colonel's groom, who had been to water his master's horse in the said river, came in a full gallop, telling him likewise, that the rebels were passing the river, so that we soon after heard them fire upon our advanced guard, who retired immediately to the main body. Colonel Haus did not call the soldiers to their arms, or caused the alarm to be given, until the enemy came within sight of us, and charging our out-guard, when we first began to skirmish with them: but they charging us with their more numerous forces in the front, whilst Kamaron with his troops endeavoured to cut off our retreat to the Receif, which we were not able to prevent, by reason of the smallness of our number, Haus asked Captain Wiltfchut, Blaar and Listry, "What was best to be done?" Wiltfchut answered, "You never asked our advice before, do what you think best." Whereupon Haus ordered to retreat to the house of Mr. de Wit: Captain Blaar, who expected no quarter, being on the other hand for fighting our way through to the Receif. The house was bravely defended for four hours, but at last powder and ball beginning to fail, because half a barrel of gunpowder (which was all they had left) blew up by accident, they surrendered at discretion to Andrew Vidal, under condition to have their lives saved, as well for themselves as the Brazilians among them; which agreement being signed by Vidal, and two or three more of the chief commanders of the Portuguese, was delivered to Colonel Haus. Notwithstanding which, the Brazilians were cut to pieces by the inhabitants, with the consent of the Portuguese commanders, as soon as we had quitted our post in the house. The Brazilian women seeing their husbands murdered before their faces, dashed most of their children's brains against the walls, for fear they should fall alive into the hands of the Portuguese. All the Dutch, about two hundred and fifty strong, among whom were Colonel Haus, Captain Blaar and Listry, were made prisoners of war, and were for the first four or five days kept in the sugar-mill of Hacc, when John Fernandes Vieira, and many of the inhabitants solicited Andrew Vidal, to deliver the said prisoners up into their hands, with an intention to kill them, but Vidal refused to grant their request, and caused them forthwith to be sent by

land to the Bahia: they were indifferently well treated in their journey thither; but such as either by reason of sickness, or any other accident, were left behind, fell into the inhabitants' hands, who cut them to pieces, and would have done the same with all the rest, had it not been for their convoy. After their arrival in the Bahia, an account being taken of their names, they had certain quarters assigned them, and thirty-one pence halfpenny per week for their pay, and a measure of meal for every ten days.

They had liberty to walk up and down within the city where they pleased, except Colonel Haus, Captain Wiltfchut, and Listry, who were confined to their lodgings, and durst not, without special leave, talk with anybody. Colonel Haus was at last sent to Portugal, and Wiltfchut and Listry, in June 1647, put on board a ship with two hundred and thirty Dutch prisoners; about sixty of our men took service among them there, but they refused the natives of Holland.

The enemies being greatly encouraged by these successes, and their strength increasing daily by the great concourse of the Portuguese inhabitants, who in the captainships of Parayba and Goyana, which hitherto had remained in quiet, and engaged themselves to the government by a new oath of allegiance, now also took up arms against us; so that it was thought convenient to recall our garrisons out of those parts.

But to return to the cape of St. Austin, after the surrender of which the garrison was carried to St. Antonio, where they were forced to deliver up their arms. Among the rest of our prisoners there was Isaac Zweers, afterwards vice-admiral of Holland and Westfriseland, Abraham Van Millingen, and John Broekhusen, both still living in Holland. Major Hoogstraten addressed himself to them, endeavouring to bring them over to the Portuguese side, by the allurements of captain, lieutenant, and ensign's places, telling them, that it would now be in his power to promote them to much higher employments; but when he saw them refuse his offer, he swore they should repent it. At the same time he preferred three Dutch men, to wit, Winsel Smith, formerly his lieutenant; Alexander Boucholt, and Claes Claesen, a native of Amsterdam, to captains places; the last of these three being an intimate friend of Zweers and Broekhusen, told them, and confirmed it by many oaths, that he had taken service among them for no other end, than to get an opportunity of returning to us. They had also liberty given them to walk abroad, but not without a guard to keep a watchful eye over all their actions.

Not long after, the Portuguese provider, Mor, sent for John Broekhusen, and after the first compliments were passed, told him, that if he would serve the King of Portugal in the quality of commissary-general, he should go along with him to the camp, where he should receive one hundred gilders per month, and be welcome to his table besides; and that if he refused his offer, and stayed behind, he would be in danger of being murdered by the inhabitants. He replied, that being engaged by his oath to the company he could not break it, though with the hazard of his life. "And," said the provider, "will you choose rather to serve a company of mob than a King? We are just now upon the point of executing a design which is infallible, and then you will begin to see that the King's cause is the justest, and will be crowned with success for ever." Then he gave him a cup with brandy, of which after Mr. Broekhusen had taken a good draught, he took his leave and returned to his comrades, unto whom he gave an account of what had passed betwixt them.

These had in the meanwhile been informed by some Portuguese, that this design was upon the isle Itamarika, and being certain that the council did not foresee this danger, they were contriving all possible means to give them notice of it, but could not

pitch upon any person fitly qualified for this undertaking. At last, Isaac Zweers, by vast promises of reward, prevailed so far upon a Dutch trumpeter, called Martin Stomp, that he undertook to carry this piece of news in person to the council, and at the same time to request the releasing of the Dutch prisoners still remaining at St. Antonio. Every thing being agreed upon betwixt them, the trumpeter took his leave of Mr. Zweers, and set out on his journey to the Receif about midnight, leaving his wife and children behind him. Mr. Zweers and Mr. Broekhusen appeared very well satisfied, but nevertheless were in their hearts not a little concerned for the issue of this enterprise.

They would often call upon the trumpeter's wife to enjoin her silence, and ordered her, that if any enquired after him, to tell them he was run away from her, in order to take service in the camp in the Vergea.

Some days after they met with one Peter Ritfau, formerly baker to the garrison of the cape of St. Austin; Broekhusen having a mind to feel his pulse, and finding him not averse to such a task, he at last with fair words prevailed upon him to undertake the same journey the trumpeter had done before; that in case he should miscarry, which they much feared he might, the council might nevertheless be advertised of the enemy's intended expedition against Itamarika. The baker having desired a certificate from them, testifying, that he never had taken service among the Portuguese, prepared himself for his journey, which he intended to begin with the first dark night.

The same night they were forewarned of a design against their lives, by a certain Italian called Giacomo da Perugallo, so that Zweers and Broekhusen guessing, not without reason, that some of the Portuguese had got scent of their sending away the trumpeter and baker, thought it not adviseable to stay longer in this place, but to ask leave from Colonel Pedro Marinho Falkaho, to go to the Algodais, where they could not want conveniency to go along with the rest of the prisoners, that were intended to be sent to the Bahia, which was readily granted.

In the meanwhile the baker having taken the first opportunity to set out on his journey, was met by two Portuguese in the sugar-mill Trapicha, who having found the before-mentioned certificate about him, carried him prisoner to St. Antonio de Cabo, where being put to the torture, it made such a noise among the inhabitants, that they all rose up in arms, protesting, they would not be satisfied till they had fetched Zweers and Broekhusen from the Algodais, and cut them to pieces; for which purpose they also obtained seven soldiers from Pedro Marinho, and had certainly put it in execution if Captain Ley had not opposed it; for, as good luck would have it, they happened at that time to be in his sugar-mill, and the baker had stood it out bravely, without discovering the matter. The next morning Captain Ley gave them a visit, telling them what had happened; and says he to Broekhusen, "What is your meaning by this?" But he having no great confidence in Ley, denied every thing to the utmost.

But the 2d of October, the whole design was likely to have been discovered by the imprudence of the before-mentioned trumpeter's wife, who being got drunk, told some of her acquaintance, that her husband was gone to the Receif. She was carried a prisoner to the cape of St. Austin, where she was miserably tortured, but being a resolute woman, would not confess any thing: it was however Major Hoogstraten's advice, that the Portuguese ought not to keep the Dutch any longer in Pernambuco, but that all such as refused to take service among them, ought to be sent to the Bahia. Accordingly, all the Dutch prisoners then about the cape and St. Anthony, were sent to the Algodais, where every one was asked by Colonel Peter Marinho, whether they

would take service under the King of Portugal, and that such as would not, should be sent forthwith by land to the Bahia, a tedious journey; besides, that they ran the hazard of being murdered by the way. Many took service for fear, but Zweers and Broekhusen being asked again, whether they were not willing to serve the King, they answered, they would rather die than bear arms against their own nation.

The 5th of October, all the prisoners under a convoy, both of soldiers and boors, were carried from the Algodais to Pojuka. But scarce were they come thither, when Zweers was ordered to be sent back to the cape of St. Austin, where he was put to the rack, to extort from him a confession concerning the trumpeter's journey to the Receif, who, as they supposed, had discovered their design upon Itamarika; but not being able to bring him to make the least discovery, they sent him, after an imprisonment of five weeks, to the Bahia.

In the meanwhile Mr. Broekhusen, with the rest of the Dutch prisoners, had been forced to travel day and night till the 28th of November 1645, when they came to a castle called Tapuao, on the sea-shore of the Bahia, about half a league from the city of St. Salvador, after a dangerous journey: they were carried in ten boats to the city, on that side where it is best fortified, the Portuguese being not willing to let them have a sight of the fortifications on the land side. Mr. Broekhusen was by order from the governor Antonio Telles de Sylva, made a prisoner in a citizen's house, and the soldiers disposed into quarters. The next day they heard the drums beat up for volunteers, every one being invited to serve the King of Portugal, of what nation soever, except the Dutch.

The next following year, on the 18th of January 1646, Zweers and Broekhusen intercepted a letter written by Hoogstraten to Hondius, concerning several transactions to be communicated to the governors, of which Captain Ley having got scent, gave immediate notice thereof to the governor, the 1st of February, who threatening them with no less than the gallows, sent them to a loathsome prison; with strict orders that nobody should be permitted to speak with them, nor that pen, ink, or paper, should be allowed them; nay, whilst the clerk was setting down their names, a captain came and told them from the governor, that they were the traitors who kept correspondence with the Dutch in the Receif; and ordered that a sentinel should be set at the prison door, to keep the inhabitants from laying violent hands upon them; for as they were carrying to prison, they made a horrible noise, crying, "To the gallows with these impostors and traitors." They remained five whole days in this prison without any victuals or drink, till being almost spent with hunger and thirst, they got leave to write to the governor, representing to him their deplorable condition; who gave immediate orders that victuals should be given them for the future: the Portuguese keeper being afraid, that if they should give them plenty of victuals at first, it might turn to the danger of their lives, was so cautious, as to send them no more than each a piece of bread well dipt in wine at first, and after some hours, such another, but something bigger, till by degrees their stomachs were restored to their former digestive faculty.

The last day of February the governor gave public audience (which is done three times every year) for the releasing of those that are prisoners on the King's account. Upon this occasion, a free access was likewise granted to our people to the governor. They passed through the anti-chamber, lined on both sides with his guards, into the room of audience, adorned with damask hangings of divers colours: here they found the governor sitting in an elbow-chair, on the right side of which stood the royal throne, raised four steps higher from the ground than the governor's seat, which was surrounded

ed upon the floor with very fine tapestry. Just behind him stood his secretary, and some halbardiers; on both sides sat several counsellors and lawyers, their heads covered, and behind them the officers of the army, all uncovered. The governor, as soon as he saw our prisoners, gave them a sign to come nearer, which they having done accordingly, Mr. Broekhusen, upon his knees, spoke to him thus:—"We suppose Your Lordship not to be ignorant, that now for a whole month we have been detained in a miserable prison, without being conscious of any crime committed against you, unless it were, that we have detained the letter Your Lordship knows of; if, in this, we have committed a fault, we beg Your Lordship's pardon."

"And," replied the governor, "supposing you had done such a thing in Holland?" Upon which, Broekhusen answered, "That His Lordship would be pleased to remember, that it was no more than a private letter, and not directed to His Lordship." The governor, after having paused for a little while, gave immediate order for their discharge; from that time they had liberty given them of walking abroad, but were fain to carry themselves very swimmingly, for fear of the inhabitants, who kept a watchful eye over them.

The 7th of May, Isaac Zweers and John Broekhusen were carried on board a yacht called the St. Francis, in order to be conveyed to the Isle of Terceira; and as they were the first Dutch prisoners that were sent to that island, every one looked upon it no otherwise than a pretence to throw them over-board after they were come to sea. Here they met with worse treatment than before, being forced to stand to the pump during the whole voyage, and yet were ready to be starved, notwithstanding the seamen caught more fish than they could consume. At last, the 28th, being arrived in the road near Terceira, they saw within an hour after, a Dutch ship coming to anchor near them; they called to the ship till the master sent some of his people aboard them, unto whom they made their complaints; and, understanding that the master was a native of Niewendam, called Martin Peter Honing, they began to be a little cheerful, though the Portuguese would not allow them to go aboard the Dutch ship. But the 29th, being left alone with the steer-man, and only one boy in the vessel, they found means to go in spite of their keepers aboard Martin Peter Honing, who promised to see them delivered. The same afternoon, Moor, the governor of this and the adjacent islands, residing in Terceira, sent for Zweers and Broekhusen, and told them that he had received a letter from the governor Antonio Telles de Sylva, in which he had desired him to detain them prisoners in the castle for a twelve-month; but that he did not think himself obliged to follow his directions, he having no other dependance but on the King, who being not concerned in this war, his orders were, to send all the prisoners brought thither to Portugal; that they might rely upon it; and, for their present sustenance, till a ship should be ready to go, ordered them nine rix-dollars.

The 13th of June, they met with a master of a French vessel, who offered to carry them, without any reward, to Portugal, which they willingly accepted of: here they met with many of their fellow-prisoners, who had imagined no otherwise, but that the Portuguese had thrown them over-board. They continued here till the 10th of September, when Zweers and Broekhusen embarked themselves at Lisbon aboard a man of war, called the Prince Henry, and at last, the 4th of December, after a thousand dangers and miseries, which they had sustained since their departure from the Dutch Brazil, arrived safely in the Maese.

-But we must return towards the Receif. The unexpected defeat of Colonel Haus put all the inhabitants of the Receif under great consternation; but the council left no stone unturned to put the place, with all the adjacent forts, in a condition to make

a vigorous

a vigorous defence, in case it should be attacked by the enemy; and, that every thing might be performed with the best order that could be, Peter Bas was constituted commander-in-chief in the Receif. Admiral Lichthart was to take care of the batteries and artillery thereunto belonging; Henry Moucheron was made commander in Maurice's Town; all their thoughts being now bent upon the defence of these places, which before they judged out of danger.

The stables and out-houses for the use of the negroes, as likewise the walks and gardens belonging to Count Maurice's house, being no small impediment to the fort Ernestus, it being to be feared that, under favour of these houses and trees, the enemy might unexpectedly surprize the fort and Maurice's Town; and the inhabitants earnestly requested the pulling down of those stables, out-houses, and trees, and what else might prove dangerous to the place; orders were given to Mr. Valbergen and Major Bayert, commanding in the fort Ernestus, to see the same put in execution, with as little damage to the house as possibly could be. The houses near the fort Bruin were likewise ordered to be pulled down, and the horn-work belonging to it, to be levelled at the request of the citizens. Many negroes were also employed under the conduct of Major Beck and the captain of the city-militia, to break down all the houses in Maurice's Town, which lay too near the retrenchments. All Portuguese prisoners were ordered to be distributed in the ships; and several volunteers, who had committed many outrages in the country, and were detained in custody, were taken into service for three months. A rumour being spread abroad that eighteen of the enemy were come into the Affagados, a company of citizens were got in readiness to assist them, but it proved not true.

The same day, the ship called the Orange-tree, arrived near the Receif, being come out of the Maese the 21st of May with thirty-five soldiers for recruits. The watches were so disposed, that in Maurice's Town Mr. de Wit and Raetfield (besides the ordinary officers), and in the Receif, Mr. Aldrich and Valbergen, should go the rounds.

Balthasar Dortmund, governor of Itamarika, sent advice to the council the 17th of August, that Kavalkanti was with some troops come to Iguaraku, and had summoned the Brazilians to join with him in four days, under forfeiture of their lives.

The 19th, the citizens presented a petition, shewing the necessity of having the house of Count Maurice pulled down, as hindering the prospect from the fort Ernestus, and, if once possessed by the enemy, they might from thence annoy both the fort and the Receif itself with their cannon. But the council having advised with Mr. Walbeck, Admiral Tichthart, Aldrich, De Wit, Raetfield, Moucheron, and Valbergen, thought fit not to agree to it for that time, being in hopes that it might be made useful for their defence. Mr. de Wit and Hamel were commanded to go from hence to each house in Maurice's Town, and to take an exact account of what negroes were able to bear arms, and to furnish them with muskets and pikes; the same charge was given to Admiral Lichthart and Captain Bartholomew Van Collen, for the Receif. All the sick that were in a state of convalescence in the castle were likewise ordered to be armed for its defence.

At the same time, an answer was sent to Mr. Dortmund, with orders to draw as many Brazilians as possibly he could into the isle of Itamarika, and to provide himself with as much cattle and meal (*farinha*) as he was able to get out of the adjacent places; but that if he found himself not in a condition to maintain the whole island, or the city of Schoppe, he should retire into the fort Orange, where he might be supplied by sea, and, consequently, make a vigorous defence. Mr. Carpentier was likewise forwarned

to be upon his guard, and to retire in time into the isle of Itamarika, with his soldiers and Brazilians, if he found the inhabitants ready to take up arms against him.

The 19th, at night, a party went abroad to get intelligence, but met with no enemy. Some negroes were also sent towards the enemy's quarters to know their strength. The same evening the council received a letter by Lieutenant Francis Meades from Andrew Vidal, in which he professed his readiness still to maintain the peace, complaining, at the same time, of outrages committed by our soldiers, as may be seen out of the following letter:—

*A Letter from Vidal to the Council.*

“ We have sent you advice before by Lieutenant Manuel Antonio, of our arrival in this captainship, by order from the governor Antonio Telles de Sylva, and at your own request, in order to restore tranquillity here by the most effectual means we could devise. We also did represent to Your Lordships the many innovations and unaccountable proceedings which had reached our ears, by the lamentable cries of several noble ravished virgins, and the doleful complaints of the inhabitants of Rio Grande, where forty persons of note, together with a priest, and the other day two more in the Salinas, were murdered in cool blood. I can scarce mention without horror (and the respect every one ought to have to sacred places forbids me to particularize) the outrages committed against the images of saints, and especially that of the mother of God, and sacrileges committed by your soldiers: all which considerations, together with that we found you in a warlike condition, with your troops in the field, natural right of self-defence established by the constant custom of war did teach us, not to leave an armed power behind our backs, which upon occasion might have proved fatal to us before we could come to a resolution in conjunction with Your Lordships, what measures were best to be taken for the re-establishment of that tranquillity, which was the only aim of our coming into these parts; according to which we have regulated ourselves in our march towards the Receif, till we come to the town of St. Antonio de Cabo; where, having caused John Fernandes Vieira to be taken into custody, under a guard of twelve soldiers, we were surpris'd at the vast numbers of inhabitants, children, women, and religious men, who, to shelter themselves from the outrages and robberies committed against them by Captain Blaar in the Vergea, came to seek for shelter among us. They gave us an account how that the said captain, not satisfied with having plundered their houses, had carried away three of the noblest ladies of the country, after they had been grievously disgraced before; the inhabitants, being exasperated by these violences, did, against our will, leave our camp so suddenly, that whatever haste we made to march after them, we could not overtake them before they were engaged with some of your troops, in the sugar-mill of Isabel Gonfaves, which they intended to have set on fire, had it not been for our men, who were forced to interpose betwixt them and your soldiers, to their no small danger and our loss, as being exposed to the volleys of your small shot, which consisted for the most part of bullets cut in pieces and made four square. As the hostilities committed daily against our troops afford fresh occasion of revolt among the inhabitants, so we cannot but lay before Your Lordships the late proclamation and ratification of peace betwixt us, protesting now and for ever, in the name of God, John IV. our King, as also in the name of the States-General, and all our allies, that Your Lordships will not let things come to a rupture, and not give us new cause of acting offensively, or to declare war against you. We cannot longer dissemble our opinion, that the reiterated complaints of the inhabitants may, at least in some measure,

sure, serve for an excuse, if not a justification, of the proceedings of John Fernandes Vieira, concerning whom we are sufficiently satisfied that his first intentions were only to afford protection to some innocent persons threatened with destruction; which though it was in his power to do, yet did he retire from place to place with his forces, in hopes of avoiding any engagement, till forced thereunto by necessity, he was constrained to repel force by force. We beg of Your Lordships to take this letter into serious consideration, being of so much consequence to our both sides safeties; for it seems as if Heaven itself were offended at our proceedings. God preserve Your Lordships.

“ From De Ingenio of St. John Baptist

“ de Venies, Aug. 19, 1645.

ANDREW VIDAL DE NEGREIROS.”

An answer from the council was sent the next following day by the same lieutenant:

*The Council's Answer.*

“ Out of our answer to your letter, dated at Serinham, the 8th of August, you may sufficiently see that the protestations made, both by the governor, Antonio Telles de Sylva, and by yourself, concerning the maintaining of the peace betwixt His Majesty of Portugal and the states-general of the United Provinces, were never looked upon by us as sincere, or to be relied upon, since your actions did in no wise agree with your words. The treacherous proposals made to one of our deputies, to betray one of our best strong holds into your hands; the landing of so formidable a force in our territories without any knowledge, under pretence of a misinterpreted sense of our letter to His Excellency; the coming with a strong fleet into our road; the taking of the fort of Serinham; the slaughter of so many Brazilians, our subjects, in cool blood; the summons sent to the Cape of St. Austin for a surrender; nay, the attacking and surprising of our troops, who were forced to keep in the field, for the bridling of our rebellious inhabitants; all these, we say, cannot by any unbiassed persons be looked upon otherwise than manifest infractions of the said treaty, and open hostilities. We on our side can, without the least contradiction to truth, positively declare, that our armament was not in the least intended against His Majesty of Portugal, but against the rebels and their adherents; which we were compelled to, when we saw many armed troops to penetrate into our territories cross the river St. Francisco. The surprising of some of our barks in the Salgados; the taking of the house Marecape, and making our safeguards prisoners there, as well as at Cambao, and several other places; the gallows that were erected on purpose to terrify our inhabitants into a compliance with the revolted party; the killing of three of the said inhabitants of Pojuka in cool blood, and the surprising of several of our soldiers and Brazilians sent to St. Lawrence to fetch farinha; the plundering of the houses and shops of several tradesmen in the country, with many such-like violences committed by the revolted party; and what is the worst, before ever we appeared in arms, but endeavoured, by proclamations of pardon and maintaining them in their possessions, to divert the danger; all these actions, we say, will not admit of any other interpretation but of open hostilities.

“ How can it be supposed that in the station we are, we could, after all those provocations and slights of our kind offers, desist any longer from drawing the sword? Whatever, in the mean-time, has been transacted contrary to the custom of war, has been done without our knowledge and intention; being occasioned by the treacherous dealings of the rebels, and consequently to be looked upon as deserved punishments, rather than the consequences of a just war; besides, that neither His Excellency Antonio Telles de Sylva, neither you nor any body else, has any legal power to call us to an account con-

cerning

cerning the government or punishment of the subjects of the States-General, no more than the King of Portugal is answerable to us for what is transacted upon that account in his kingdom or other dominions.

"Notwithstanding which, we would have you not in the least lay the before-mentioned crimes and violences at our door; we are so far from having encouraged or commanded the Tapoyers to kill the Portuguese inhabitants in Kunhao, that for these several years last past we have endeavoured to prevent it; for having, by the ill treatment they had received from the Portuguese, been exasperated against them, they were for killing most of the inhabitants of that captainship, and had actually put it in execution, had we not interposed our authority, and ordered our garrisons to take them into their particular protection. What you say of ravishing of women, is not only beyond our knowledge, but even beyond whatever we heard of before, having taken all imaginable care to prevent such violences by our proclamation, published for that purpose. It is known to all the world that we afforded our peculiar protection to the women of De Ingenio, of St. Arnout d'Orlanda, and what concerns the taking of the ladies by Captain John Blaar, was, as we are informed, done with no other intention, than to exchange them for his wife, or at least to keep them as hostages for her, he having received intelligence that she was very ill treated by you at Serinham. The rebels themselves made the first step towards those robberies and rapines that have been committed by our soldiers since, which, however, cannot come into balance with those cheats, frauds, and rapines, wherewith those rebels have defrauded and robbed their creditors of their debts and goods; notwithstanding which, we have, by granting safeguards and otherwise, done all what in us lay to prevent the same.

"The late murder upon the person of the Salinhas was committed the 17th of August, without our knowledge, to our great dissatisfaction, by the flying Brazilians, who, being enraged at the killing of their men, women, and children at Serinham, without any distinction of age or sex, took this opportunity of revenging themselves. You may easily guess that the papers dispersed by Antonio Kavalcanti at Iguaracu have also contributed not a little to this enterprise.

"Of the bullets mentioned by you to have been used in the last encounter, we have more reason to complain than you, it being our constant order not to recede from what is the custom of war in these cases.

"The courtesy shewed in saving and receiving our soldiers we are ready to acknowledge, and to return upon the like occasion, desiring you would send us back your resolution upon this point by the same drummer.

"It being evident from what has been alledged, that all the past misfortunes ought to be imputed to the rebels, unto whom we endeavoured by all requisite means to restore tranquillity and peace; but they, persisting in their rebellious designs, deserve rather condign punishment than the least excuse at your hands. For which reason it is that we protest before God and the whole world, against the proceedings of His Excellency Antonio Telles de Sylva, and what else has been committed by yourself contrary to the treaty concluded betwixt His Majesty of Portugal and the states-general of the United Provinces; not questioning but that upon the receipt of these presents, you will retire with your forces to the Bahia, and thereby put an end to the further violation of the said treaty. Thus, expecting your answer, we rest,

"Receif, Aug. 20, 1645.

Sir, yours, &c."

The same night word being brought that some of the enemy's troops were advanced to Olinda, notice was given to all the circumjacent forts to prepare for a vigorous defence.

fence, and two batteries ordered to be raised on the back-side of the dwelling-place of the negroes, from whence they might command the avenues to the Receif along the river side. Several volunteers lately come from the flat country, were incorporated into one company, under the command of Secretary Hamel, as captain, and Jeronymo Holman their lieutenant: two advanced guards were placed, one betwixt the fort Bruin and the triangular fort; the second betwixt the last and Count Maurice's plantation: part of the bridge of Boavista was broken down to hinder the enemy's passage that way; and considering the importance of the triangular fort, a detachment of twenty-six soldiers, out of several companies, was ordered to reinforce the garrison there. The same care was taken for the security of Maurice's Town, Antonio Vaez, the fort Ernestus, the quinquangular fort, and all the rest.

Major Bayert was ordered to have the remaining walls of Count Maurice's stables pulled down, because they hindered the prospect from the fort Ernestus; and Henry Vermeulen was commanded to employ thirty negroes in clearing the plantation of Count Maurice and the ditches from all rubbish; and the before-mentioned Bayert ordered to remove the palisades from the said gardens, and to put them round his fort. The engineer Pistoor had orders given him to set a row of palisades on that side of the fort of Ernestus, where it fronts the before-mentioned gardens, and to extend them five rods into the river. And this fort being not sufficiently stored with heavy cannon, commissary Sticht was to carry thither two great pieces, then planted at the bridge-foot, and instead of them to place there two culverins; likewise, the entrance of the channel of Maurice's Town was stopped by a double row of palisades. The members of the council, in conjunction with those of the court of justice, took another view of the suburbs of Maurice's Town, to consult whether it were best to maintain or to desert that post, but the resolution thereof was deferred till the next day. Two great cannon were planted in the quinquangular fort, to command the river side; and in consideration that the horn-works belonging to that fort required a considerable number of men for their defence, the governor of the fort was ordered to have the same levelled by his Brazilians and soldiers, and one hundred negroes; and the woods betwixt the said fort and the Affagados, were ordered to be cut down by the Brazilians belonging to the fort, when it was also resolved to draw the fortifications of Maurice's Town into a narrower compass, and to repair the walls round the Receif; so that by the indefatigable care of the council, all the fortifications, both of the Receif and the other adjacent places, were put into such a good posture of defence, that the enemy, though very strong, durst not attempt any thing thereabouts for that time. Mr. Dortmund had drawn near fourteen hundred persons into Itamarica, seven hundred of which being women and children, he desired some supplies of provisions, but for the rest, had put the island in a good posture.

Mr. Linge, by his letter, dated in Parayba, the 22d of August, sent advice to the council, that after notice given him of the defeat of Colonel Haus, he had judged it most convenient to remove the garrison and inhabitants of Fredericia into the forts; that however the Portuguese were pretty quiet as yet, notwithstanding his whole force consisted not in above four hundred soldiers, one hundred inhabitants, and fifty Brazilians, among whom were a good number of sick and maimed men; and that the Tapoyers had slain about twelve or fourteen labouring countrymen. Major Hoogstraten, Ley, and Heck, had not long before given notice to the council, that they had burnt all the houses, but especially the magazine and church without the fort, for its better defence, and that the enemy had posted themselves on the hill of the cape, and on the southern island.

On the 25th of August, upon another review of the fortifications of Maurice's Town, the same were ordered to be brought forthwith to perfection.

The same day the council received letters from Mr. Linge, by the way of Itamarica, dated the 18th and 19th of August, in Parayba, that William Barents had sent him advice from Kunha the 14th of August, that he and Rudolph Bawn had a troop of Tapoyers ready for our service, every thing being very quiet thereabouts; but that the said Tapoyers had carried away all the cattle belonging to Peter Farcharson, which had occasioned no small scarcity of fresh flesh thereabouts.

It was also judged absolutely necessary by the council, to take into their serious consideration the present condition of the forts in Rio St. Francisco and Seregippo del Rey, which being provided but with slender garrisons, and all communication cut off betwixt them and the Receif, and in great danger of being lost; it was judged absolutely necessary, after the defeat of Colonel Haus, to endeavour the preservation of them, and consequently of the whole Dutch Brazil, by removing them from thence to the Receif.

To accomplish this with all imaginable security, Mr. Walbeck was deputed by the great council to the council of war, to know their opinion, by what means these garrisons, as well as that of Porto Calvo, might be with safety brought to the Receif, or whether, considering that they would be forced to leave their cannon behind them, they should be ordered to defend themselves to the last extremity, in hopes of receiving speedy succours from Holland for their relief.

The council of war having well weighed the whole matter, unanimously agreed upon the following resolution:

*The Resolution of the Council of War.*

"That it was their opinion, considering the capital city was in danger, for want of a sufficient garrison, the garrisons of the before-mentioned forts, which in all probability could not make any long resistance, ought to be taken from thence, with as much ammunition and cannon as could be done, and carried to the Receif. But in regard that the fort of Porto Calvo lay pretty deep into the country, where the river was very narrow and shallow, the garrisons of Rio St. Francisco and Seregippo del Rey were to pass that way, in order to join them, and that they should bury or break their cannon.

"By order from the council of war, August 24, 1645.

"(Signed)

KORNELIS BAYER,  
ALBERTUS OOSTERMAN,  
L. VAN HARKEMAN,  
JOHN DENNING,  
SAMUEL LAMBARTZ,  
HENRY ADVOCAT,  
FREDERICK PISTOOR,  
CAPTAIN HAELEMEISTER,  
RENE DE MOUCHY."

Accordingly two barks, with the ship *Zealandia*, were ordered for the execution of this enterprise, to Rio St. Francisco.

The last day of August, one of the captains of these two barks returned, and gave an account that he, being advanced into the river of Rio St. Francisco, within a league of

of the said fort, he received so warm a salute of small shot from a Portuguese vessel full of fire-locks, that he was forced to return, without being able to penetrate any further up the river; that the other bark being discouraged thereat, durst not venture to go to Seregippo, but that they thought fit to retreat back with the ship Zealandia; he further added, that it would be very difficult to put this design in execution, unless they were provided with some galiots and yachts well armed.

Pursuant to this advice, the council ordered the yacht called the Sprew, with three other barks, thither, to join with the ship Zealandia, for the more effectual execution of this design.

They set sail from the Receif the 2d of September, Captain William Lambartz commodore. He returned with the said yacht and the Zealandia, the 1st of October, to the Receif, where he gave the following account of his expedition to the council:

We came, the 22d of September, within a half league of the fort of St. Maurice, where we met with a bark, which, at the discharge of one of our cannon, sailed away before us up the river. As we were in pursuit of her, we espied another small vessel, in company of the bark belonging to John Hoek, both full of soldiers: we saw the first of these two run ashore, and the soldiers landing, who skirmished with an opposite party for the defence of the vessel: our yacht, under favour of our cannon, boarded the said vessel, with an intention to set it on fire; but finding it loaden with the baggage of our soldiers, fell to plundering first; and soon after espied a boat, with a white flag, making all the sail they could towards them: Major Pappenheim, late commander of the fort of Rio St. Francisco, and Mr. Hoek, were in this boat, being sent by the enemy to let us know, that if we set fire to the vessel, he would cut all the prisoners, with their wives and children, to pieces, so that we desisted from it. They gave us an account, that the said fort had been forced to surrender three days before, for want of wood and provisions, after a siege of twenty-six days: that the Portuguese, having taken a serjeant, with four soldiers of the garrison of Seregippo, had killed the soldiers, and sent the serjeant back with a convoy of two hundred men, to fetch the garrison of Seregippo, which had not above four days provision left, from thence. That about eight days before the surrender of the fort, Colonel Haus, Captain Listry, and Captain Wiltshut, passed by that way, in their journey to the Bahia, whither they, pursuant to their capitulation, were to be carried, with the rest of the prisoners, and from thence to Portugal, and so further to Holland, without any other loss except their baggage, being for the rest indifferently well treated. They further added, that the Portuguese, not long ago, detached two hundred men to the island of Melchior Alvares, in hopes to cut off the retreat of our men, and to prevent their excursions, but came too late, our people being retired before. That the enemy had likewise made themselves masters of the fort Dos Affagados, where Mr. Bullestraet being made a prisoner, was now on his way to the Bahia. Captain Lambartz hearing this account, thought it his best way to retreat towards the mouth of the river, where, having spent two days in refitting his ships, he returned the 1st of October to the Receif.

The same ill success attended us at Seregippo and Porto Calvo; for the council having sent a bark with provisions to their relief, the same, contrary to her orders, came to anchor before Rio St. Francisco, where being seized by the enemy, the garrison of Seregippo being thereby disappointed in their hopes, were forced to surrender, after they had spent all their provisions. After this misfortune, there was not the least probability left of saving the garrison of Porto Calvo, which lying deep into the country, the river was not navigable thereabouts, by reason of its narrowness, and that the enemy was master of the field on both sides, so that they were likewise obliged to surrender for

want of necessaries. The garrisons of these three forts were, contrary to their capitulation (by virtue of which they were to be conducted to the Receif), carried prisoners to the Bahia; but those that could not follow the rest, by reason of sickness, or otherwise, were cut to pieces by the Portuguese.

Many of the soldiers belonging to these as well as other garrisons, and of the troops under Colonel Haus, dreading the danger of the land journey to the Bahia, did take service among the Portuguese: but Captain Nicholas Nicholson being sent with sixty-four of these Dutch to prepare an ambush for some of our forces, took this opportunity to join with us, which exasperated the enemy to that degree, that they disarmed all the Dutch that had taken service there, and murdered them in cool blood, the like they did with the Dutch inhabitants that had staid behind in the country.

In the meanwhile the captainship of Parayba, through the good conduct of their governor Paul de Linge, remained in obedience, at least in outward appearance, till the 25th of August 1645, when the inhabitants, having received intelligence of the defeat of Colonel Haus, and the surrender of the cape of St. Austin, and being at the same time encouraged by the succours of five companies, and good store of arms, sent to them by Vidal from Pernambuco, they began also to take up arms, with an intention to cut off the communication betwixt the garrison in the monastery of St. Francisco, as the inhabitants of Fredericia (a place of no strength), and the forts near the sea-shore; but Mr. Linge shrewdly suspecting their design, did, with consent of the rest of the officers there, order all the citizens with their effects, and the before-mentioned garrison, to withdraw within these forts, to prevent their being surpris'd by the Portuguese, and to serve as an additional strength for the defence of the forts; for which reason also the Brazilians inhabiting with their families in those parts, were commanded to intrench themselves under the cannon, which served for outworks to them. The enemy finding themselves by the conjunction of these forces, disappointed in their design of making themselves masters of Parayba by force, had recourse to their wonted artifice, not questioning but they might have the same success in purchasing the forts of Parayba, as they had had at the cape of St. Austin. To encompass which, they sent in September 1645, one Ferdinand Rodrigo de Bulhaus, clerk of the court of justice of Parayba, with a letter directed to the commander-in-chief, Paul Vander Linge, offering him the sum of nineteen thousand guilders, if he would surrender the said fort into their hands. But this message had not the desired effect, the messenger being, by order from Mr. de Linge taken into custody, and hanged the next day; of which he sent notice to the council the 16th of September. In the meanwhile, (according to Mr. de Linge's letter from the 6th of September) five companies more of the enemy's troops, making in all about three hundred men, were arrived in Parayba, which being joined by the ablest of the inhabitants, had posted themselves near Tibery, where they had published by proclamation, for every one to repair to his sugar-mill, under pain of forfeiting the same.

The passage betwixt the Affagados and the quinquangular fort, where the cattle belonging to the Receif were kept at pasture, being much infested by the enemy's parties, one of which had taken good part of it, a small wooden fort was ordered to be erected in the most convenient post, for the security of the meadows thereabouts.

Some time before, viz. the 26th of July, orders were sent from the council to Servaes Carpentier, to disarm the inhabitants of Goyara, who thereupon petitioned the said council to be excused from surrendering their arms, considering that thirty-seven Portuguese of Kunhao, who had been disarmed, were murdered by the Tapoyers, and that they were daily in fear of the same treatment, till they were further removed from their borders.

borders. The council answered, that the murder committed upon these Portuguese had been done without their knowledge, and contrary to their orders; that in case they persisted in their allegiance, they had nothing to fear from the Tapoyers, whilst they were under their protection; neither ought they to imagine that the disarming of them, was done with an intention to leave them a prey to the Tapoyers, but for our own security, and to furnish them with a plausible excuse not to join with the rebels, whenever they should be prompted thereunto by them. At the same time they repeated their orders to Mr. Carpentier, not to desist from disarming those of Goyana, notwithstanding their petition to the contrary, but that he should be very careful, that neither the soldiers nor Brazilians of Marni might be burthensome to them. The council also deputed Mr. Astelle and Captain William Lambartz, with letters to John Duwy and Karakara, the first king, and the second commander-in-chief of a troop of the Tapoyers, with presents to all the rest of their commanders, in order to engage them to join with us, they having complained of their not having been presented, like as John Duwy was before; accordingly, the said Mr. Astelle and Captain William Lambartz having taken their leave the 28th of August of the council, took shipping for Parayba, in order to go from thence to Kunhao to treat with the Tapoyers.

The members of the court of justice and the council of war, in conjunction with the magistrates, having represented to the great council the absolute necessity of having the houses in Maurice's Town pulled down and laid level with the ground; an order of the said council was published the 29th of August by beat of drum, enjoining the inhabitants to pull down such houses, within the space of two days, and in case of failure, every body to be at liberty to break down the same for his use; the house of Mr. Rechteren only excepted, which was to be converted into a redoubt, for the defence of the adjacent plain. The same day John Denninger, lately lieutenant to Colonel Haus, succeeded Captain Baar, now a prisoner with the enemy, in his command; and many negroes offered to serve the company under a captain of their own choosing.

The 30th of August, Captain William Lambartz, with part of his forces returned to the Receif from Parayba, where he gave the council an account of his negotiation: that not without a great deal of trouble they at last obtained two hundred Tapoyers from their king John Duwy, who pretended that he dreaded an incursion from one of his neighbours, who in the absence of his troops might perhaps kill him with all his family, and demanded at the same time, that all the Portuguese might be killed in Parayba. That he marching with these Tapoyers into the said captainship of Parayba, they actually slew all the Portuguese they met with in their way, to the number of one hundred persons, and plundered their houses; and as soon as they found him prepared to appease them, one half of them, with what negroes and other booty they had got, returned home; but continuing his march with the rest through Goyana towards the Receif, the Tapoyers did no sooner understand that they were likely to meet with some opposition by the way, but they followed the footsteps of the rest homewards, so that he was forced to retire with all speed to the fort of St. Margaret in Parayba, from whence he returned by sea to the Receif. Hereupon the council dispatched some letters the 16th of September for Rio Grande, directed to king John Duwy, Jacob Rabbi and Rudolf Baro, exhorting them to join their arms with ours, for our mutual defence, and to chase the Portuguese that were on their march thither, from thence.

The 13th of September 1645, Jeronymo Serrao da Payva, late admiral of the Portuguese fleet (made prisoner in the late sea-engagement in the bay of Tamandare) appeared before the council, where being examined concerning the designs of the governor of the Bahia in sending a fleet, and landing his forces in the bay of Tamandare, as like-

wife concerning the fleet under the command of Salvador Korrea de Saa, he refused to give any other answer, or to make the least confession, but that he was sent with the said fleet and forces to offer his assistance to appease the revolt arisen among us. He desired also leave to send a letter by a drummer to the colonels Martin Soares Moreno and Andrew Vidal, about the exchanging of his person, and some other Portuguese prisoners, which was granted.

Some of the citizens having conceived a jealousy, as if their pressing circumstances and the need they stood in of present relief, had not been sufficiently represented to the council of Nineteen in Holland, it was thought fit by the council to communicate the contents of the two last letters to their satisfaction.

The 19th of September, about noon, our whole fleet retired from the bay of Tamandare into the road of the Receif, with two men of war and two small vessels, taken from the enemy; where I was arrived long before, having left them immediately after the engagement. The same night Servaes Carpentier, who died the day before, was interred. The same day the yacht called the Doe, and one of the small vessels taken from the enemy, and called by us the Receif, were sent a cruising to the cape of St. Austin, to prevent the enemy receiving any supplies by sea thereabouts.

The council being sensible that the enemy made it his chiefest endeavour to drive away their cattle, and to prevent them by strong parties from fetching of wood and fishing, a company of fuzileers were ordered to be erected out of other companies, who were to be commanded by Captain Renbagh, and to serve as a constant guard against the enemy's flying parties. The 21st of September, the following proclamation of pardon for such as had taken service with the enemy, was published.

*A Pardon published.*

“The great council of the Dutch Brazil being made sensible, that many of their subjects being fallen into the enemy's hands, have either for fear of being killed or transported, and out of other considerations, taken service among the enemy's troops, and considering that most of them have been inveigled by their commanders, and perhaps are in a fair way of repenting of their error, have thought fit, by these presents, to grant our pardon to all such as shall return to our service, for all past offences; with our promise, that they shall receive the advantage of the same station they were possessed of among us before; and such as are willing to return to their native country, shall have passports granted them for that purpose: from the benefit of which pardon, are however excepted Dirck Hoogstraten, and the other traitors, who being commanders of forts, have treacherously delivered up the same to the enemy.”

By this time the enemy had blocked up all the avenues by land, leading to the Receif, in hopes to reduce us by famine, having posted both all the Portuguese forces sent to their aid from the Bahia, and the rebellious troops from the city of Olinda to the Baretta, in the form of a half-moon; and made about half a league from the fort of Affagodas an entrenchment provided with six pieces of heavy cannon, brought hither from Porto Calvo; but durst not attack us by force, knowing we were prepared for their reception.

Mr. Dortmund having by his letters represented to the council, the necessity there was of sending one of their members to provide for the security of Itamarika, and to keep the Brazilians (consisting of fifteen hundred men, women, and children), by his authority in their duty against the solicitations of Kamaron, who left no stone unturned

turned to bring them over to his side; they desired Mr. Bullestraet to take upon him this province; who accordingly, the 23d of September, set sail thither in the ship the Deventer, and returning the 29th of September to the Receif, gave the following account to the council.

He arrived about noon at the entrance of the river Maria Farinha, where being informed by John Vos, master of a bark, that the enemy had twice attacked the city of Schoppe, and continued before it still, he went in a shallop with five or six seamen to the fort Orange, but was no sooner espied by the garrison, but they desired him not to come nearer, they being still smartly engaged with the enemy upon the hill, and doubtful of success: whereupon he sent two seamen, with a letter to Mr. Dortmund, who being encouraged by the reward of two reals, brought an answer from him the same night, intimating that the enemy had been forced to retire.

The 25th of August, by break of day, he went in a shallop to the city of Schoppe, and finding that the enemy, what with the brave resistance made by the garrison, what with fear of this ship, had abandoned not only the city, but also the whole island, he ordered the fortifications to be forthwith repaired, and to be put into a good posture of defence.

For the enemy perceiving that it was in vain to attack us upon the Receif, sent great part of their forces, embarked in eight boats and a bark, against Itamarika, the 20th of September; where having surprised and vigorously attacked our forces, posted on the hill near the city (our deserters making the first attack), that they the third time made themselves masters of it, forcing our troops to retreat into their entrenchments of the church.

About three days after, viz. the 23d, Mr. Bullestraet, as we are told, arrived in the ship Deventer, to give the necessary orders for the defence of the place; and to keep the Brazilians in awe, he brought along with him some volunteers chosen from among the citizens, the garrison of the Receif being so weak as not to be rendered useless by any further detachments; besides that there were four hundred Brazilians capable of bearing arms at Itamarika. He was charged by the great council, and the members of the council of war, to watch above all things for the defence of the fort Orange, which was to be maintained to the last, if they were not able to keep the whole island on the hill.

Mr. Bullestraet, after his arrival there, found it absolutely necessary to preserve likewise the city of Schoppe, from whence the said fort must be supplied with wood, its situation being such, as that so long as we were masters at sea, we could maintain a correspondence betwixt the said fort and city; for which purpose also, the yacht called the Golden-Doe, had her station appointed betwixt the fort Orange and the hill, to maintain the passage of the river between both. But to return to the siege of the city: the enemy made three vigorous attacks upon the entrenchment on the hill, but was repulsed with the loss of one hundred and fifty killed; though a barber, who after the fight deserted them, made their loss amount to four hundred and fifty. Kamaron and Hoogstraten were wounded, and we had only fifteen killed and sixteen wounded. The Brazilians lately transported thither, from the villages of Goyana, Iguaracu, and other places, behaved themselves to a miracle upon this occasion, though it must be allowed that the arrival of Mr. Bullestraet did not a little cool their courage, which made them abandon the island in the night, betwixt Sunday and Monday.

The 2d of October the great council entered upon a second debate concerning the preservation of Itamarika, they having received certain intelligence, that the enemy had undertaken the last expedition against that island, upon hopes of being seconded therein

therein by certain persons of our party, with whom they kept a secret correspondence; and though they were in the dark upon whom in particular to fix the intended treachery, yet did they think it conducing to the safety of that so important place, to remove Captain Sluyter with his company from thence, and in their stead to send thither the company commanded by Captain William Lambartz, and to intrust him with the supreme command of all their forces there, which was put in execution accordingly the next day. The entrenchments round the church and the fort Orange were also ordered to be strengthened with palisadoes; and the first (pursuant to the advice of Garstman and Dortmund), I ordered to be surrounded with a counterscarp, within the compass of which a company of Brazilians were lodged, with their wives and children, and the rest to be employed in the defence of the fort Orange; so the redoubt which commanded the place, from which the fort was supplied with water, was ordered to be repaired against a sudden attack, without which the fort could not long subsist, or hold out against an enemy.

Letters were about the same time delivered to the council, dated the 5th of October, by Major Austin de Magethaes, sent by Andrew Vidal, to treat about the exchange of prisoners; he told them, that since Admiral Serrao de Payva had by two several letters solicited his releasement, he desired that the same might be exchanged for other soldiers, or be ransomed by Antonio Telles de Sylva, governor of the Bahia. He desired also that a cartel might be agreed upon for the exchange of the soldiers; and that in the meanwhile such of the Portuguese inhabitants, as were prisoners with us, might be released for reasonable ransom, which was not accepted of by the council.

In the meanwhile (pursuant to the letters from the commander-in-chief of Rio Grande, and John Hoek of the 6th of October), Jacob Rabbi, with a small troop of Tapoyers and Brazilians, in conjunction with thirty Dutch inhabitants, made themselves masters of the seat of John Lestan, with the slaughter of fifteen Portuguese. But they had not the same success at Fernandez Menda's house in the Potigi, which being defended by fifty Portuguese, they were repulsed with some loss.

The enemies finding themselves disappointed in their design of gaining Parayba by treachery, did again apply all their care to block up the avenues leading to the Receif, in hopes of reducing it by famine. This occasioned many skirmishes, in which the Brazilians, who got the greatest part of their provision out of the country, did a considerable mischief to the Portuguese; who for their greater security built a fort in Pernambuko (as they likewise did in the Vergea of Parayba) near the sugar-mill of George Huomo Pinto, but slightly fortified, and not able to hold out against any vigorous attack. In Rio Grande the Tapoyers played the masters over the Portuguese; for as we told you before, that according to their custom they entered the said captainship in July 1645, when being informed of the rebellion of the Portuguese in Pernambuko, they out of an in-born hatred to that nation, attacked the 16th of July some of them in the sugar-mill of Kunhao, and killed every soul of them, the Dutch inhabitants thereabouts not being strong enough to prevent it. From thence the Tapoyers marched to Morpob, Goyana, and Potosi, places belonging likewise to Rio Grande, where finding a body of Portuguese entrenched with palisadoes in the nature of a Palanka, they forced them, in conjunction with some Brazilians, to surrender, under condition that their lives should be saved, provided they did not give any further occasion of disturbance. But some of the Portuguese flying afterwards into Parayba, the Tapoyers looking upon this as a breach of the late treaty, did with the before-mentioned Brazilians agree to put the rest to the sword wherever they met with them, which they

did accordingly, the Brazilians exclaiming against the tyranny committed upon thirty or forty of their comrades, who, by Andrew Vidal's order, were tied to palisadoes in Serinham and strangled, which had this good effect, that Rio Grande for that time was entirely purged of the rebellious crew, except some few who escaped their hands. Their estates and cattle were afterwards disposed for the benefit of the company, and others their creditors, which furnished the public magazines with good store of flesh, at a very seasonable time. The Portuguese being sensible that we drew considerable supplies of provisions from that country, endeavoured to prevent it by sending several bodies of their troops thither, but were always forced to retire to Parayba, whither they carried as much cattle along with them as they could.

According to the deposition of Captain Nicholas Nicholson (who came over to us the 12th of November, as we shall see anon) the four companies of Dutch quartered in the Vergea were as follows:

The company of Nicholas Nicholson, sixty-three men, and among them twenty-three musquets.

The company of Alexander Buchhalt, of forty-three men, among whom thirty-six musquets.

The company of Captain Anthony, who was mortally wounded in a late engagement, consisted of thirty-six men, and among them thirty-two musquets.

The company of John de Wit, of forty men, but miserable wretches, and among them only twelve musquets.

Besides these they had two other Dutch companies in Goyana, one commanded by George Peterfon of seventeen men, all pikes, the other by La Cour of nineteen men, likewise most pikes. They had also two more in Parayba, one under the command of Captain Peter Gendre of nineteen men, most pikes; the second by Edward Verfman of twenty men, among whom was but one musqueteer. So that the whole number of these eight companies amounted to no more than two hundred and fifty-seven men; their colonel was Hoogstraten, and Francis la Tour, late alderman of Serinham, major, a professed enemy to the Hollanders. Most of the Dutch prisoners were put under a necessity of taking service with the enemy, being otherwise in danger of being murdered in their way to the Bahia, as it happened to forty-two prisoners taken at the cape of St. Austin, who were all slain in the sugar-mill Konjau, near Serinham. He further declared, that the enemy's forces in the Vergea consisted of about seven hundred men, sent from the Bahia, divided into nine companies, well armed with musquets and fire-locks. That besides these, they had about one hundred men, gathered from among the Portuguese inhabitants, they having forced all the young men from the south of Huma, as far as St. Lawrence, to take up arms: some being armed with fire-locks, others with musquets they had taken from us; they were for the most part mulats, and an undisciplined rabble, commanded by John Fernandes Vieira as colonel, and Anthony Dias, (who came from the Bahia) their major. Their captains most in esteem among them were, Simon Mendes, Domingos Fagundos, and John d'Albuquerque. Kamaron commanded one hundred Brazilians armed with blunderbusses, and Dias two hundred negroes (among whom fifty were ours), provided with very good guns; besides some Tapoyers. Each soldier had for his daily allowance, a pound of meat, and about a pint of farinha or meal, and twelve gilders per month; a captain one hundred and twenty gilders, an ensign forty-two, a serjeant twenty-one, and a corporal fifteen gilders per month. But they only paid the Dutch troops with ready-money, the account with the Portuguese from the Bahia being made up but once a year. They were at that time busy in raising of a fort with four small bastions and a powder-house,

betwixt Bierbrom's sugar-mill and Casa de Sabrodo, upon each of which were to be mounted three pieces of cannon, eight pieces having been brought for that purpose from Porto Calvo, among which were five of metal. Round about this fort the soldiers from the Bahia had their quarters assigned them, except the company commanded by John de Magehais, which was quartered in the Baretta, with four Dutch companies, viz. the Dutch that were in the sugar-mill of Bierbrom, and those commanded by Captain Peter Kavalkanti, and Anthony Jaconio, and two or three companies of the Portuguese come from the Bahia, in the sugar-mill Brito; the rest being Portuguese, mulats, and other idle fellows they had forced to follow them from the south. These were armed for the most part with fire-locks and musquets, the rest with pikes. Andrew Vidal, John Fernandes Vieira, and Major Hoogstraten, were at that time in the Casa de Sabrodo; all these consisted not in above six hundred men. About the sugar-mill of John de Mendonce were quartered three companies, two at the house of Sebastian Karvalho, and two more in the sugar-mill of Mengao. The rest were posted in the Salines, Baretta, and the city of Olinda. Some of Kamaron's troops were in the sugar-mill of Van School, and in the house of John Kordero de Mendoje, upon the bank of the river, being their advanced guard; Henry Dias with his troops had his post in the house of Mr. Luffelen. The redoubts belonging to the city of Olinda were manned only with seventeen soldiers.

In November the great council received intelligence, both by letters from Paulo de Linge out of Parayba, as also by several deserters, that the enemy had sent four hundred men, two hundred of which were soldiers, the rest inhabitants, from Rio Grande into Parayba, to make themselves masters of the open country, or at least to drive away the cattle; whereupon it was resolved, with consent of Colonel Garfman, to endeavour to hinder the execution of the enemy's design.

The 12th of November, Captain Nicholas Nicholson, a native of Amsterdam, came, as we told you before, over to us to the Receif. He was among other prisoners of the cape of St. Austin, carried from thence to St. Antonio, where he took service among the Portuguese, but with no other intention than to desert them upon the first opportunity; he being entrusted with a captain's commission, to command a company of Dutch soldiers forced to list themselves from among the prisoners they had taken, was ordered, at the recommendation of Hoogstraten, and Albert Geuitz Weddo, with the approbation of Vidal and John Vieira, to lie in ambush for some of our people in the Salines, with a detachment of sixty men, out of the four Dutch companies in their service; and four more companies were ordered for a reserve, to assist him upon all occasions. The supreme command of the whole body being committed to him, he approached as near as he could with his Dutch to the fort Bruin, where he took the opportunity to pass the river by break of day, and to go with them (they being all willing to follow) over to us to the said fort. Captain Nicholas Nicholson had the command over the said company confirmed to him by the council, they being all willing to enter into their service. But the enemy had no sooner notice of it, but they disarmed all the Dutch, and under pretence of sending them to the Bahia, caused them to be murdered by the way, with their wives and children.

The 2d of November, the council had received advice from Mr. Linge from Parayba, that Andrew Vidal had entered that captainship with two hundred men, and that Kamaron had by letters strongly solicited Peter Potty, to desert our service with his Brazilians, but had received a smart refusal; the council sent him two pieces of fine linen cloth as a reward of his fidelity. For it ought to be observed, that the Portuguese, when they first began to take up arms against the government, did with letters and

great promises tempt the régidores or commanders of the Brazilians to join with them, but they were so far from hearkening to them, that they sent all the letters written upon that account, both by Kamaron and the rest of the rebellious ring-leaders, without opening, to the council, thereby to avoid all suspicion of keeping any correspondence with the enemy, Peter Potty being a near kinsman of Kamaron; and ever since that time they have behaved themselves so well upon all occasions, and have done such considerable mischiefs to the Portuguese, by plundering and killing them, wherever they could meet with them, that we had not the least reason to mistrust the sincerity of their intentions.

The said Mr. Linge did also send word November the 4th, that the enemy had attempted nothing as yet; and from November 14, that a party of three hundred of our people being joined by some Brazilians of Parayba, had engaged eight hundred of the enemy's troops, whom after a smart engagement they put to the rout, with the slaughter of a good number of their men. The Brazilians being encouraged by this success, did over-run all the flat country, and meeting with a good number of Portuguese, who were merry-making upon St. Martin's eve in the sugar-mill of Andrew Dias de Tigeyreda, they attacked them so furiously, that after a slender resistance they put them all to the sword, even the son of the said Tigeyreda himself, and a priest, without giving quarter to any body, except to a very beautiful maiden; who, though almost distracted at the death of her father, and some of her other relations, that lay wallowing in their own blood, had such a powerful influence upon the hearts of these barbarians, that they brought her a prisoner safely to the fort of Parayba.

The 21st of November towards the evening, three hundred and sixty soldiers (twenty of whom were taken from the Receif) set sail in small boats to the bay of Traican, and continued their march the same night, under the command of Lieutenant Berge, Justice Hoek, and the receiver-general of Pernambuco, towards Kunhao, in order to attack the enemy that were lately come into Rio Grande from Parayba; but these enemies having got some intelligence of our designs, were retired from Kunhao to a retrenchment among the bogs, which being accessible but in one place, they so warmly saluted our forces that would have forced them from thence with their shot, that they were obliged to retreat, with the loss of some dead and wounded, to the castle of Keulen, partly to refresh their men, partly to prevent their penetrating deeper into the council.

The 4th of December it was resolved to send the ship the Overysfel, and the yacht called the Sprew, towards the Bahia a-cruizing, to get intelligence of their naval strength thereabouts, and to endeavour to take some prizes. The 5th of December the great council sent for all the commanders of the Brazilians, to inform them, that they had received considerable supplies of powder, ball, and all other sorts of ammunition, by the ship called the Swan, with letters from Holland; that they were equipping a considerable fleet for their relief, at which the Brazilians were extremely rejoiced; the Portuguese commanders having made it their business to persuade them, that no such thing was expected from Holland.

The same evening a Brazilian deserter declared, that all the Dutch were killed by the rebellious inhabitants, and their wives and children made slaves. The same thing was confirmed by a negroe deserter, concerning Captain Bochholt; who having taken service with the enemy, and being afterwards suspected by them, had caused him to be murdered, as they had done with all the rest of the Dutch in their service, who were slain in their way to the Bzhia.

The 7th of December, it was resolved in council, to erect four companies of fuzileers, the same being found by experience to be more serviceable at this juncture, for which purpose,

purpose, the companies of Colonel Garfman, Captain Jurian Remberger, Captain Nicholas Nicholson, and Captain John Taylor, were pitched upon before all the rest.

In the same month of December, a certain Portuguese, Gaspar Gonfaves, was taken by the Brazilians in the island of Itamarika, sent on purpose to persuade the Brazilians, that the Dutch intended to deliver them up to the Portuguese for a certain sum of money, and they to retire with their effects into Holland, which caused no small commotion among the Brazilians, who began to give credit to the relation. And because Gonfaves had spread this rumour abroad some time before the arrival of Caspar Honyhuse, (who the 28th of August was appointed commander-in-chief of the Brazilians of Itamarika, instead of Listry, taken prisoner by the enemy), he was hardly put to it how to remove this jealousy from among them. Jacob Rabbi, pursuant to his letters of the 11th of December, was about the same time preparing to enter eighty leagues further into the country towards the Tapoyers, to solicit their assistance: he at last came to Oyepe, son-in-law to King Duwy, who promised, in case those of Siara would send their troops to us, he would endeavour to raise as many of his vassals as he could; but King Duwy excused himself, under pretence that many of his troops died by sickness in the Sartan.

The night before the 27th of December, the enemy had, by means of a boat, fastened two puppets with fire-works to the ship called the Swan; but being discovered as soon as it took fire, was soon quenched without doing any damage to the vessel; which made the ships to be constantly upon their guard for the future.

The 30th of December, two such puppets, found by two soldiers in a small boat near the fort Bruin, were presented to the council. This boat, which questionless was sent on purpose to fasten these puppets to some ship or other, being discovered by the sentinels, the men quitted the boat, leaving the said puppets behind them.

Mr. de Linge, by his letters dated the 30th of December, from the fort St. Margaret in Parayba, advised, that a certain negroë, who had deserted the enemy's quarter of St. Andrew, had declared, that the enemy had built two large barks in order to transport three hundred men in each, in order to attack Peter Potty, commander of the Brazilians, in his intrenchments. That Kamaron had been near three weeks in Parayba, the enemy's troops consisting thereabouts in sixteen companies; but that they had many sick among them for want of provisions, and that they had drawn all their forces out of Rio Grande.

The 6th of January 1646, Peter Bas, one of the members of the great council, did, by order from the said council, set sail with the two ships the Lichthart and the Receif, and a bark, called the Blue-Boar, towards the captainships of Parayba and Rio Grande. His instructions were, to consult with Mr. Linge commander-in-chief in Parayba, and the rest of the officers there, how to put the intrenchments and other works of the Brazilians, into a posture of defence. From thence he was to go to Rio Grande, there to take an exact account both of the real estates and chattels of such Portuguese, as by reason of their being engaged with the rebels, were forfeited to the company; he was also to use his endeavours to have those goods which were upon that account concealed or embezzled, restored for the benefit of the said company. He was also ordered to act in all other respects, but especially in providing for the security of the captainship and the fort, as he found it most consistent with our present interest, and to exhort the inhabitants to remain steadfast in their duty, and not to neglect the cultivating of the grounds and breeding of cattle.

The 12th of January, Peter Dunkerke arrived from Parayba, where he had been a cruising before the Receif in the ship Hamel; he brought a letter from Mr. Linge, dated

dated in the fort St. Margaret, the 11th of January, who sent also one Mr. Steenhuisen to the council, he having deserted the enemy when they began to kill the Dutch in their service. This Steenhuisen brought advice to the council, that Kamaron, with five hundred well-appointed foldiers, was marched out of Parayba into Rio Grande to be masters of the field there; and, consequently, to keep our garrisons from being supplied with cattle and farinha from thence. He further added, that the enemy were in want of meat, oil, and other necessaries; but that the inhabitants flattered themselves, that, for want of provisions, we should shortly be obliged to surrender our forts into the hands of the Portuguese. This being likewise confirmed by Mr. Linge's letter, dated the 10th of January, a council was called against the 13th of January, Dirk Hamel and Mr. Bullestraet being present, both members of the great council, besides the assessor Walbeck, as likewise Lieutenant-Colonel Garfman, Mr. Raetsfield, Mr. de Witt, Aldrich, Volbergen, and Sans, in order to deliberate concerning the present exigency, considering, that in case we should, by the enemy's being masters of the field, be bereaved of the supplies of cattle and farinha of Rio Grande, at a juncture when Itamarika and Parayba are closely beset by their troops, it would be next to an impossibility to maintain ourselves in the possession of the Dutch Brazil, till the arrival of the expected succours from Holland. It was therefore taken into consideration, whether this captainship might be best secured by a powerful diversion, or by endeavouring to drive him from thence. But being sensible that the enemy were so powerful near the Receif, Parayba, and Itamarika, as not to be attacked in any of these places, without exposing the whole Dutch Brazil to an imminent danger, it was resolved, that in order to attempt the relief of the captainship of Rio Grande, Mr. Dortmund should be ordered to send sixty foldiers under the command of Captain Welling, and one hundred Brazilians, in the barks sent him for that purpose, from Itamarika to Rio Grande: at the same time, orders were dispatched to Mr. Linge, commander in the fort St. Margaret in Parayba, to send the same number of foldiers under Lieutenant Bresman, and of Brazilians, to Rio Grande, to join with the rest that were to rendezvous there. These forces, consisting of one hundred and twenty foldiers and two hundred Brazilians, set sail the 19th of January for Rio Grande, and were thought sufficient to oppose the enemy's designs on that side.

Mr. Dortmund and William Lambartz, by a letter dated the 15th of January, gave notice to the council, that they had sent a body of sixty foldiers and one hundred Brazilians abroad, as far in the Aldea by Oubus, and from thence to the sugar-mill Arra-ripe, but did not meet with any enemies in that part of the country, though they had several guns discharged at them from among the woods; so that they returned to Itamarika by the way of Tapafima.

Mr. Linge, not long after, sent advice by his letter dated the 22d of January, at the fort of St. Margaret in Parayba, to the council, that Peter Potty with one hundred and fifty Brazilians, had attacked the enemy four hundred strong in the Aldea of Magrebbe, and put them to flight with the loss of twenty killed, and many wounded, whereas they lost but one Brazilian.

The 29th of January, it was resolved in council, to bring the ships the *Elias*, *Orange-tree*, *Deventer*, *Omlandia*, and the *Swan*, into the road of the Receif, to be ready upon all occasions, in case the enemy should again appear at sea.

Mr. Bas, pursuant to his letter from the castle of Keulen, in Rio Grande, dated the 23d of January, could not, by reason of a tempest, land his forces at Kunhao, in order to join them with those under Captain Rhineburgh; but was forced to land his forces the 14th and 15th near Peringi. In the meanwhile, Kamaron having found means to

break in through the Matta, had surprised many of the inhabitants in their Fazendas, and killed them without distinction of age or sex : he had since posted himself with his forces, consisting of four hundred soldiers, as many Brazilians, and eighty Tapoyers, under the command of Antonio Jacomo Bessero, at a house of Henry Hamme in Mom-pabou, to cut off the provisions from us. Our forces consisting of about one thousand soldiers, Brazilians and Tapoyers, marched the 23d of January to a house of Joim Lestan Navarre, to attack the enemy, and to force them to quit the captainship of Rio Grande. Besides these, Jacob Rabbi, and the sons of King Duwy, were the 19th, past by the fort Keulen, at the head of sixty Tapoyers, and were daily followed by others, that came to our assistance. Mr. Bas solicited also some supplies of provisions, of which they stood in great want, there being above one thousand five hundred Brazilians, men, women, and children, lodged under the castle. He desired also some money, ammunition, linen, and silks, to present to the Brazilians and Tapoyers ; all which, together with some pieces of red cloth, was sent him by the council.

According to this advice, it being much to be feared the enemy would scarce stand the brunt in Rio Grande, but retire into Parayba, it was taken into serious consideration the 29th of January, whether it would be adviseable, in case the enemy should be forced by our troops, or voluntarily retreat into Parayba, to pursue them thither, and thereby endeavour the recovery likewise of that captainship : but considering that, by reason of the weakness of our garrisons, we were not in a condition to send any further succours from the Receif, Itamarika or Parayba, without running a manifest hazard to our troops there ; whereas, on the contrary, the enemy did not want opportunity to relieve theirs from the adjacent places of Parayba, and that we lived in daily hopes of succours from Holland, it was judged the best way, that the welfare of the whole Dutch Brazil ought not to be put to the hazard by such an enterprize as this.

Accordingly orders were sent to Mr. Bas and the rest of the commanders of our troops there, to act with all imaginable caution, and rather than expose our men, in following the enemy into Parayba, to be contented with the recovery of the captainship of Rio Grande.

The 30th of March, Colonel Garfman was, by special order from the council, sent a second time with some troops to the captainship of Rio Grande, to inform himself, whether any troops of the enemy were posted in that captainship, and in what number ; his instructions were, that so soon as he had received intelligence of the enemy, he should, with what forces he was able to bring together, endeavour to stop their progress. But if he found himself not strong enough to oppose him, he should send speedy advice thereof to the council, that they might send him speedy succours, and that he was to take all imaginable care not to engage the enemy, before the arrival of the said succours. But if he found the enemy already so strongly entrenched as to be master of the country, without any hopes of forcing them from thence, the defence of the fort Keulen should be his chiefest care, as likewise of the Brazilians, with their wives and children ; and since, in case the said fort of Keulen should be in danger of being attacked by the enemy, it would be of ill consequence, to have these women and children enclosed within these fortifications, for fear of want of provisions, he was strictly ordered to transport them in time, to some place of security, such as Siara, or the like, where they might be able to subsist, and be secure against any attempt from the enemy. He was ordered also in his return to the Receif, to take *en passant* (if it could be done without inconveniency) a view of the fortifications of Itamarika and Parayba, in order to give an account of their condition to the council.

But

But to return to Mr. Bas: according to his letters dated the 30th of January from the fort Keulen, Captain Rhinebergh had with his body made six several attacks upon the enemy, who was retired from Mompabou and Kunhao into a bog, without being able to force their entrenchments; we lost about one hundred killed and wounded in this action, and retreated to the house of John Leytān with order to get some cattle, which was very scarce thereabouts, our forces feeding most upon fishes, which they caught by the help of two large nets; twenty-eight of our wounded men were brought to the Receif, with advice that notwithstanding this unsuccessful attack on our side, the enemy were retreated into Parayba. Mr. Bas also solicited some fresh supplies of men and ammunition, in order to pursue them into Parayba, but the resolution upon this head was deferred until they should hear further from Mr. Bas. The 7th of February, it was resolved by the council, with the approbation of Admiral Lichthart, to equip the Hollandia and the Swan, together with the yachts, the Flight, the Hamel, Bullestraet, and Lichthart, for cruising. By letters from Mr. Linge, dated the 11th of February, at the fort Margaret in Parayba, the council was advised; how that, according to the deposition of a negro deserter, Kamaron was come with all his troops into the city of Parayba, with an intention to attack our forts on that side; an answer, with what was thought necessary for this present purpose, was immediately sent back in a bark by the council. By another bark sent by Mr. Bas from Rio Grande, they were advertised, that he lay still encamped with his troops near the house of John Lestān, where with much ado he could get provisions for them, the enemy being still posted at Momguappe, and guarding all the avenues into the country; that he had sent several spies abroad, to get intelligence concerning the present posture of the enemy. The 17th of February, the ship the Swan and the yacht called Bullestraet were ordered to go out a-cruizing; the 18th, the yacht the Flight, and the 20th, the ship Hollandia, set sail for the same purpose. The ship the Overyffel was also ordered to go out, to serve for a spy-ship on the coast of Parayba.

The 21st of February, the council received a letter from Mr. de Linge, dated the 18th, in the fort of St. Margaret, intimating that he had heard nothing since of the enemy. Yet that he wished the forces he had sent to Rio Grande might be returned with all convenient speed, to make use of them for the defence of his forts, in case of an attack. The 24th of February, a party under command of Captain Killion Taylor and Captain Nicholas Nicholson, were sent abroad towards the island of the Barette to get some prisoners, but they returned the 20th to the Receif, having met with nobody except a man, at a considerable distance. Another party which had taken their way towards Olinda and Bracco de St. Jago, but with the same success, the enemy having only shewn himself at a distance, as they were returning to the fort Bruin. The 27th of February, the enemy appeared with a strong body in the Salinas, but being saluted by some cannon-shot from the fort Bruin, retired without attempting any thing.

In the meanwhile, according to Mr. Linge's letter, from the 2d of March, three barks with soldiers were arrived in Parayba from Rio Grande, so that the rest, under the command of Mr. Bas, being five hundred in number, might be hourly expected at the Receif. He further advised, that he had seen no enemy of late, but being informed that a considerable body lay encamped in a valley near the village of Magarebbē, he had ordered thither one hundred and twenty soldiers, and one hundred Brazilians, to beat up their quarters, and to get some prisoners. In effect the 4th of March, he, with his troops consisting in five hundred men, arrived from Rio Grande at the Receif, and the 5th of March gave the council an account of his expedition.

The 9th of March in the night, the enemy appeared in three bodies near the fort Prince William, and gave us several volleys of small shot, but being answered with our cannon, retired immediately. The same day a party of fifty men were sent abroad under Lieutenant Mos to get intelligence; being met by two companies of the enemy, a sharp encounter ensued, our forces retiring without any considerable loss, under the fort Wardenburgh, and the enemy retreated at the discharge of some of our cannon. By letters from Mr. Linge, dated the 8th of March, at fort St. Margaret in Parayba, the council received the unwelcome news that the enemy in Rio Grande had by a pretended flight drawn the 5th of March Lieutenant John de Vael with forty-eight soldiers, who were too eager in the pursuit of them, into an ambush, where they had killed thirty of them, though, according to the report of some deserters that were present at the engagement, not without considerable loss also on their side; Kamaron, Andrew Vidal and some other Portuguese officers of note, were also present. About the same time fifteen Brazilians surprised five men, six women, and eight children, in an entrenchment, seven leagues above Iguaraku, called Papeku.

In the meanwhile the Tapoyers, who according to their custom come once a year, about Midsummer, from among the mountains, some hundreds strong, into the captainship of Rio Grande, were, after they had carried away all the horses and mares they could light on, retired to the hills; a thing very fortunate for us, for without it our garrisons would not have been able to subsist there. Provisions growing every day scarcer in the Receif, it was agreed the 6th of March by the council, to send the Brazilians raised in Rio Grande with a company of fuzileers to Itamarika, to ease our magazines of that burthen, whilst they might provide themselves with farinha-roots in that island. Much about the same time the two majors Bayert and Pistoort, appeared before the council, intimating, that being informed that the citizens began to murmur at their staying at home, pretending that they were sufficient to guard the forts; for which purpose, as it was reported, Admiral Lichthart had offered three hundred men, they were come on purpose to offer their service, and were ready to take the field with those few forces they had left in the garrisons; though they at the same time protested, that they were of the same opinion, which had been approved some days before, to wit, that this undertaking, by reason of their small number, would be full of danger, and yet not answer the end of bringing provisions into the Receif. Admiral Lichthart being thereupon asked whether he had made any such offer, he declared not to have spoken any thing like it, his ships being so ill manned, that he could spare no men for any other service.

The night before the 13th of March, the enemy appeared both on the other side of the river and the dike leading to the fort Bruin, discharging their musquets and blunderbusses at our centinels, but upon the first salute from the cannon of the fort retired. The same they did near the fort of Affagados. The same evening betwixt nine and ten o'clock they made an attack upon the wooden fort, built betwixt the Affagados and the Quinquangular fort, for the defence of the plain, which they continued until one o'clock, cutting down some palisadoes, and bringing great store of dry reeds, in order to set it on fire, but in vain, being forced to retreat with the loss of some of their men; on our side two were killed, and four or five wounded, among the last was Lieutenant Casper Ferdinand Van Grol, who received two dangerous wounds. The next morning the broken palisadoes were repaired, and another row ordered to be set beyond the first, and foot-angles to be laid betwixt both. The 17th of March the bark called the Parayba coming from Siara, brought advice, that the Brazilians were gone from Siara to Komefi, having refused to return to Rio Grande,

for

for fear they should be called to a severe account there for the murder of several inhabitants, committed by them before.

By the same bark Mr. Linge sent advice from the 14th of March, that the enemy had appeared of late in a considerable body near the northern fort, but was retired now, but whether to Rio Grande or St. Andre, he was not able to tell. They had spoiled all the farinha-root fields in the Aldeas Magarebbe, and thereabouts; so that the Brazilians being for the future to be furnished with provisions out of the magazines, he desired a supply of wine and oil: immediately advice thereof was sent to Dortmund commander-in-chief of Itamarika, and some ammunition, besides one thousand guilders in ready money. The same sum was transmitted to Mr. Linge in Parayba, and a barrel of oatmeal, a pipe of wine, a hoghead with oil, and another filled with dry pease, besides good store of ammunition. He was also ordered to send the Brazilians back to Rio Grande for defence of that captainship, and to get intelligence whether the enemy had directed his march thither, in order to oppose his design.

In the meanwhile, Admiral Lichthart (pursuant to his letter of the 21st of March to the council) had embarked some soldiers and Brazilians in Itamarika, and taking his course to the north entrance of the river, was got up as far as to the isle of Tapesco, from whence they had brought back a great quantity of farinha-roots, for the use of the Brazilians in Itamarika, and of the magazines there.

The 30th of March it was resolved, with the approbation of Admiral Lichthart, to send the following ships a cruising before the Bahia; the Ulissingen, the Ter Veer, and the yachts the Greyhound, the Heemstede, Sprew, and Bullestraet; and on the 6th of April, the Swan, the Zouteland, the Flight, and the yacht the Lichthart, were ordered to go a-cruising before the cape of St. Austin, and set sail the 10th of April accordingly.

The 31st, letters were brought to the council, dated the 25th of March, in Rio Grande, intimating that Paulo de Kunha and Kamaron were entered Kunhao with eight hundred men, among whom were three hundred musqueteers, to carry away the cattle from thence to Parayba.

But, according to Colonel Garfman's letters to the council, upon his arrival, which was the 4th of April, the enemy were already retired out of Rio Grande, without undertaking any thing against our people, who, consisting only in four hundred soldiers and three hundred Brazilians, lay encamped near the house of John Lestan, yet they carried off some cattle.

About the same time they received letters from Mr. Linge, that the enemy had made several false alarms near the forts, without attempting any thing. And, in effect, in June, they did not appear any more thereabouts.

In the year 1646, the 5th of March in the night, Jacob Rabbi was, at the instigation of Lieutenant-colonel Garfman, near Potosi, about three leagues distant from the castle of the same name, villainously shot with two bullets, as he was going home from one John Miller's house, where he had been entertained that evening in company with Colonel Garfman. Rabbi had a considerable time before (as he had declared to his friends) suspected the treachery of Garfman, and was for that reason just upon his departure out of Rio Grande, in order to shelter himself among the Tapoyers. The council resented this villainy to the highest degree, since, considering that this Jacob Rabbi was in great esteem among the Tapoyers, and his wife a Brazilian, it was to be feared, that this would exasperate both the Tapoyers and Brazilians against us. So that Garfman returning the 19th of March to the Receif, after he had given an account of his expedition to the council, was, by their particular order, the 24th of

March,

March, taken into custody, and sent on board the *Hollandia*, Major Bayett being ordered in the mean-time to supply his place. This Jacob Rabbi, a native of Germany, had been employed by authority of the states-general, His Highness the Prince of Orange, and the company, to engage and keep the Topayers in the interest of our government; in which commission he had acquitted himself so well, that he brought these Tapoyers several times, out of the mountains (their habitations) to our assistance. His dwelling-place was in the fort Keulen, in Rio Grande, where he had married a Brazilian woman. Gasper Honyhouse, commander of the Brazilians in Itamarika, being slain in the last engagement in that island, Mr. Vincent Van Drillenberg was, at their request, constituted their commander by the council.

The 17th of April, some papers were delivered to the council, which had been dispersed by the enemy, to debauch our soldiery; in return of which, they sent abroad their summons, upbraiding each of their subjects as were in the enemy's service, with treachery, and exhorting them to return to their duty. It was also agreed to publish a copy of a letter delivered by the Portuguese ambassador at the Hague, to the states-general, from the King his master; with the answer of the states to the said letter: for since the King of Portugal in this letter did disown the war, and the proceedings of Antonio Telles de Sylva, and his sending of his troops into the Dutch Brazil, they did not question but by this means to open the eyes of the Portuguese inhabitants, not to flatter themselves with vain hopes of assistance from Portugal; besides, that we were in hopes thereby to sow the seeds of mistrust betwixt them and the Portuguese commanders from the Bahia.

The 24th of April, two Portuguese companies, commanded by Captain Lawrence Karnero and Peter Kavalkanti, consisting of about forty men each, marched from the Vergea and the city of Olinda to Iguaracu.

They were headed by Vidal and Hoogstraten in person, who having got intelligence that Admiral Lichthart and John Nicholson were gone to Itamarika, to get some farinha-roots. The 25th of April, as they were marching from Iguaracu, a certain German surgeon, named Christopher Mars, who was formerly taken prisoner by them, happening to stay somewhat behind, whilst he was stopping, was surprised by one of our parties near Tapafino. Upon examination by Mr. Walbeck, he declared, that not long ago there were nine companies of the enemy's forces quartered in the Baretta, the city of Olinda, and in the mills of Bierboom and Brito; each company consisted of betwixt forty or fifty men. That there were five companies more, much of the same strength, posted in the Salinas; and Henry Dias, with two hundred mulats and negroes in Gaspar Cox's house, but they had then no forces in the Vergea.

That after Nicholas Nicholson was come over to us with his troops, Martin Soares Moreno had caused two hundred and sixty Dutch, both soldiers and inhabitants, (among whom were six women and two children,) to be killed by a company of the country-militia, in the woods of Tabatinga, betwixt Sibero and Deriba, in their way to the Bahia, besides those killed by his order in other places, amounting in all to three hundred.

By this time there began to be great scarcity of meat in the Receif, notwithstanding which, the garrisons in the outworks, as well as the Brazilians in Itamarika, with their wives and children, were to be supplied from thence; and the farinha roots being either all taken up before by our own people, or else destroyed by the enemy, in the island of Itamarika: to supply this pressing necessity, it was resolved by the great council, to send a detachment of four hundred men in barks to St. Lawrence de Praja

or Tujukapa, to fetch mandinka or farinha-roots from thence. This detachment was composed out of these following troops :

Out of Captain Nicholas Nicholson's company, nine men.

From the Quinquangular fort, twenty-five.

From the Affagados, twenty-five.

Out of the company of Captain William Lambartz, fifty.

Volunteers from Itamarika, thirty.

Brazilians, one hundred and fifty.

The 29th of April the council was, by letters from Itamarika, advertised, that our forces being sent abroad to fetch some farinha, had chased the enemy out of two or three entrenchments; but retiring into another, surrounded with a deep ditch, they were there also, with more courage than conduct, attacked by our troops, being forced to retire, with the loss of sixteen killed and twenty-six wounded, among whom was Captain William Lambartz: the enemy had likewise not a few killed on their side. Mr. Dortmund, commander-in-chief of Itamarika, therefore desiring to be supplied with meal, his magazines being quite exhausted, the council sent thither, the 1st of May, twenty barrels with meal, two with oatmeal, two with dry pease, besides a pipe of wine and brandy, and one thousand guilders in money, for the use of the Brazilians.

The 3d of May the council received advice, by a letter dated the 2d of May, from Mr. Dortmund, that the enemy had carried away ten negroes, four belonging to the company, the rest to one Mr. Seulin, and four other men from Itamarika; and that the Brazilians there had been so far debauched by their intrigues, that they retired into a wood, and being twice summoned to rejoin our troops, had refused so to do. That at last Mr. Apprius (minister of the Brazilians) having been sent to reduce them to their duty, either by persuasions or threats, his arguments were so prevailing, that they returned quietly, alledging for their excuse, that they were forced to fly thither for want of subsistence. Hereupon Dortmund desired fresh supplies for his magazines, that a person of authority might be sent thither, and that another company might be put in place of that of Captain Vofterman, his men being ready to revolt.

To remove all these obstacles, it was resolved immediately to dispatch thither Mr. Bullestraet, a member of the great council, who was to agree with certain private persons to provide our garrisons with fish, and to act in every thing there as he should find it most expedient for the service of the company.

Accordingly, Mr. Bullestraet set sail the 4th of May, in the yacht the Greyhound, and arrived the same day in the afternoon in Itamarika; where, having executed his commission, he returned the 10th of May to the Receif, and gave the following account to the council: that he had taken a view of the city of Schoppe, and the fort Orange, both which he had ordered to be strengthened; as also, to fortify the old brick-house, formerly the stadthouse, with palisadoes against any sudden attempt; that he having called before him all the commanders of the Brazilians, had represented to them that we were in daily expectation of a powerful succour from Holland, exhorting them to remain stedfast in their duty, and to keep their soldiers under the best discipline they could; he had also presented their commander with cloth for a suit of clothes, and the rest with some wine and money, which they very thankfully accepted: he had *en passant* taken a view of the plantations of Conradt Pauli, where he had found about one hundred and sixty cocoa-trees cut down by the Brazilians, being forced by famine to feed upon the fruit; the like they had done in several other places; that he had endeavoured to treat with several private persons for a certain quantity of fish

fish to be delivered at the Receif, but could meet with none that would accept his offers; they alledging, that most of their negroes being either run away or taken by the enemy, they did catch no more fish but what they could readily sell in the island, without the charge of salt and transportation; that he had likewise proposed to the commander-in-chief of the Brazilians, to give them for the future money instead of meal; and that they were to be furnished with three nets to catch fish for their own use; that the commander promised to propose it to the rest, and gave him some hopes that they would accept of the said offer.

To supply the present want of provisions, which began to be scarcer and scarcer every day in Itamarika, Parayba, Rio Grande, and the Receif, by reason that the expected supplies from Holland were not as yet arrived, and we were closely blocked up by land; it was thought fit to give all imaginable encouragement to the fishing trade; for which purpose the two members of the great council, Mr. Hamel and Mr. Bas, ordered, the 7th of May, to buy up as much yarn as possible could be got, to make fishing nets of, which afterwards stood us in good stead.

A certain Portuguese, who had committed man-slaughter in Angola, and was fled from thence to the Receif, having accused John Vieira d'Allegoas, he was by order from the council taken into custody.

This Portuguese declared, that the said Vieira had delivered to him a certain piece of parchment, written in characters, and a box, wherein were several other papers, in order to carry them to the enemy, which parchment and box he produced in the presence of the members of the council. John Vieira denying the matter, was put to the rack, but continued resolute in his denial; till at last the key of these characters being found among his papers, and a certain Jew having uncyphered these letters, it appeared that he had given an account of the whole posture of our affairs to the enemy, with directions how to make themselves masters of the Receif; so that finding himself discovered, he confessed that he had written and delivered these cyphered papers to the Portuguese; and was executed the 29th of May.

The magazines being by this time almost exhausted, there being scarce provisions left for a few weeks, it was proposed by the council to the majors Bayert and Pistoor, that considering it was not adviseable to exasperate the soldiery at this juncture, by retrenching their allowance of bread and other eatables, whether instead of a pound of meat, they might not be prevailed upon to take sixpence, by this means to preserve that small store of flesh they had left; which these two majors undertook to propose to the soldiers, not without hopes of succeeding in their project. And that nobody might be exempted from bearing his share in the public calamity, it was ordered that the loaves which used before to weigh a pound and a half, should be reduced to one pound weight, and that each citizen and others depending on the company, nay the members of the great council themselves, should have an allowance only of two loaves per week; the same was to be given to all seaman, captains, lieutenants, and ensigns; but the rest, from the serjeant to the common soldier, should have three pounds of bread allowed them per week.

Mr. Linge advised from the 1st of May, out of Parayba, that the enemy had not attempted any thing against the forts, and that a party of Brazilians was gone abroad towards Tapoa, in hopes to take some prisoners. Much about the same time the council received advice, that Colonel Garfman, without orders from the council, had endeavoured by some presents, to draw the Tapoyers into Rio Grande, under pretence of keeping them at hand, to enter into a confederacy with the new members of the great council that were expected from Holland. The council being not a little surprised at this

this undertaking, since by the coming of the Tapoyers into that captainship, they should be disappointed of a considerable part of those supplies they received from thence; they sent word to Rudolph Barro to leave no stone unturned to draw the Tapoyers by fair means back to their habitations; but that if they would send some of their commanders to the Receif, all imaginable satisfaction should be given them concerning the murder of Jacob Rabbi; and the more to engage Barro to do his utmost, a present of wine, brandy, and some toys, was ordered to be sent him. For as the case then stood, it was absolutely necessary for us to remain masters of Rio Grande, till the arrival of the succours from Holland; the vast numbers of Brazilians that were fled to Itamarika, having consumed all sorts of provisions there to that degree, that that island could not only not send any supplies to the Receif, but most of the women and children of the Brazilians must be supplied out of the magazines there; so that Rio Grande was the only place left from whence they received a considerable quantity of farinha and cattle; which in some measure abated the scarcity of provisions in the Receif, and by the prudent conduct of the council, was the chief means that the place continued in tolerable good health till the arrival of the succours, which without it, it would in all human probability have been impossible to be done; and no question but this captainship might for a considerable time after, having furnished the garrisons to the south with necessaries, had it not been for the following accident.

The expected succours from Holland being detained by the winter-season and contrary winds, the Brazilians of Goyana, who with their wives and children had sheltered themselves in Itamarika, were reduced to the greatest extremity for want of food; for after they had consumed all what the island could afford for their subsistence, and all the avenues by land being blocked up by the enemy, they had no other supplies but what they received from our magazines: these being now exhausted to such a degree, that each citizen had but one pound of bread allowed him per week (which however at that rate would not hold out above fourteen days longer), the council was under an absolute necessity to have it proposed to the Brazilians, to retire with their wives and children (in all about twelve hundred) to Rio Grande, where they might subsist some time upon what the country afforded. Accordingly they writ to Mr. Dortmund the 1st of May, and sent Mr. Walbeck thither in person, to persuade the Brazilians to send at least five hundred women and children, with a certain number of their men, to Siara and Rio Grande, there being at that time in all near fifteen hundred Brazilians, men, women, and children in that island, among whom were only five hundred fit to bear arms, under the command of Caspar Honyhouse, who had each scarce a pound of bread allowed them per week.

Provisions, as I told you before, growing daily scarcer and scarcer, by reason the succours from Holland were detained beyond all expectation, by contrary winds; a general council was called, where the three members of the great council, Mr. Hamel, Mr. Bullestraet, and Mr. Bas, being present, as likewise Admiral Lichthart, and the two Majors Bayert and Pistor, the following points were taken into debate.

First of all, the sending of the Brazilians from Itamarika to Rio Grande being looked upon as unavoidable, immediate orders were given to get the necessary transport vessels ready for that purpose. It was also taken into consideration, whether it were not feasible to gather a sufficient force out of the forts, who in conjunction with the Brazilians might attack some place or other, from whence to provide ourselves with farinha; but to this it was objected by the Majors Bayert and Pistor, that the garrisons of the forts could not be weakened by any detachment, without running a great hazard; besides that it was a hard matter to pitch upon any place where there was any store

store of farinha, the enemy having either consumed, spoiled, or carried it away before; so that we must expose our men to an apparent danger, without a sure prospect of interest; for, supposing we should be successful, the quantity that might be got, would not be sufficient to maintain our garrisons for any considerable time. It was however agreed to take an exact account of all the garrisons, to see whether upon an occasion something might be undertaken for the service of the state. Accordingly these two majors, Bayert and Pistor, having presented a list of these forces the next day to the council, it was concluded that no troops could be spared out of the forts, except it were out of the Affagados, but they were but few in number. At the same time it was resolved to send Captain Niger with his company of Brazilians to Rio Grande, and the Omlandia and Greyhound yacht were ordered forthwith to sail to Itamarika, to transport the Brazilians to Rio Grande.

The 30th of May the council, the admiral, and two majors, entered into a second debate, whether it were possible to attack the enemy, and in what place: against which it was alledged, that their chiefest force was at present in the Vergea; but supposing it was not, no farinha was to be got there, because they were supplied with it themselves from far distant places. That the farinha-fields nearest to the Receif were about St. Lawrence, at least five leagues from thence; that the nearest farinha-fields to the south were about St. Antonio and Moribeca, where, by reason of the strength of the enemy and the great distance from us, there was no probability of incompassing our design; and that the farinha-fields to the north were likewise at such a distance from the sea-side, as could not in any likelihood answer our expectation. It was farther taken into consideration, whether some forces might not be spared in Itamarika, but it was carried in the negative; because since the Brazilians were ready to depart for Rio Grande, it was not adviseable to expose the rest of our troops there to a hazard. After serious deliberation, what forces possibly could be raised out of the forts (their places being in the meanwhile to be supplied by the inhabitants), it was found that the Affagados could furnish about seventy or eighty men, the Quinquangular fort and Maurice's Town, the same number, and that of St. Antonio Vaez about fifty. But, considering that the city-militia of the Receif consisted only of six companies of seventy or at the most eighty men each, and that they were obliged to be upon the guard every night there (the place being without a garrison), if a considerable number of them should be employed in the forts, this must needs expose the capital place, which the enemy chiefly aimed at, to an imminent danger. The seamen being not above two hundred and fifty in all, could likewise not be employed in that service, unless we could leave our ships quite upmanned and useless. So that after many arguments on both sides, it was agreed to chuse the securest way, and according to the orders of the council of Nineteen in Holland, to expect the succours from thence with patience, and in the meanwhile to provide for the security of our forts.

The same day the council received letters from Mr. Walbeck, that some of the Brazilians of Itamarika had deserted, a rumour being spread among them, that we intended to leave them to the mercy of the Portuguese, which had put all the rest into a great consternation, but that Mr. Dortmund had convinced them to the contrary. Mr. Walbeck and Dortmund had in the meanwhile represented to the Brazilians, that they being many in number, and consequently very ill provided for at this juncture, whether it were not best for them to go for some time to Rio Grande. They were at first averse to his proposals, for fear of being deserted by us, nevertheless the urgent necessity of providing for their sustenance, and to shew their compliance with the government's orders,

orders, were so reconciled with them, as to resolve to go to Rio Grande, provided they might be furnished with convenient transport-ships, provisions, and some ammunition for their defence, and fifty men of regular troops. Mr. Dortmund having again solicited for provisions, some were sent (sufficient for fourteen days) immediately, with some gun-powder, bullets, and other ammunition.

Accordingly above one thousand two hundred Brazilians, most women and children, whose husbands and fathers had been slain in our service, embarked aboard the *Omlandia* and some yachts, a pound of salt cod-fish being allowed to each for the whole voyage without bread. At their arrival in Rio Grande they were so emaciated by famine, that they appeared more like dead carcases than living bodies, and laid hold of every thing they could meet with to satisfy their greedy stomach, so that in a little time they consumed all the farinha that was left there.

Mr. Linge, by his letters from the 25th of June, sent advice to the council, that there appeared no enemy at that time in Parayba, but that ten Tapoyers, vassals of king John Duwy, being come into Rio Grande, had shewn themselves extremely dissatisfied at the murder of Jacob Rabbi, whereupon it was resolved to reconcile that king to our interest by the following presents:

Two hundred gilders in ready money.

One thousand ells of Osnaburg linen-cloth.

One hundred gallons of Spanish wine.

Two casks of brandy.

Forty gallons of oil, and a barrel with powdered beef.

The Brazilians in garrison in the fort the Bruin, the Quinquangular, and some other forts, being dissatisfied at their being detained there for eight months last past, petitioned the council the 12th of June, to be sent back into Rio Grande.

The opinion of the two majors being asked thereupon, they advised, that considering they did no extraordinary service there, they might well be spared; so that it was resolved the 14th of June in council, to pay them their arrears, and to send them back to Parayba and Rio Grande, to inhabit their villages as before.

In the Quinquangular fort, the company of Immanuel Barros was ordered to keep guard instead of the Brazilians, who were commanded to depart the 20th of June. The 11th, 12th, 13th, and 14th of June, the enemy shot in the night-time very fiercely against the fort de Affagados, a redoubt called Kirk, and the house Boavista.

The 15th of June it was proposed to the council by Admiral Lichthart, and the two majors, Bayert and Pistor, to beat up the enemy's quarters in the house of Immanuel Kavalkanti, and in the Baretta, with the following troops:

The company of Captain Killian Taylor, forty men.

The company of Captain Nicholas Nicholson, of seventy men, which were to be joined by Captain de Niger with thirty men out of the fort Frederick, with Lieutenant Mos from the fort Ernestus with ten men, and Lieutenant Katnar from the fort Prince William with twenty men.

In all two hundred men.

About one hundred volunteers were supposed to be raised from among the citizens, under the Colonel Walbeck; and Immanuel Baros with his negroes, consisting in fifty men, these joined with the other two hundred, would make up a body of three hundred and fifty men, to be commanded in chief by Major Pistor, and to be conducted by sea by Admiral Lichthart to their landing-place, viz. the regular troops to the south of the Baretta, and the negroes upon the island on the north-side, from whence they might break through the marshes to the Affagados, and so further to the house cross the river

river, where they were to make a false attack, whilst the troops landed at the Baretta assaulted them from before; the admiral, with his transport vessels, to lay ready all this while to receive them, and to secure their retreat upon all occasions. This proposition being approved of by the council, partly to animate our soldiers, partly to get at least some provisions for the sick, it was resolved to be put in execution the next day, but the wind proving contrary, and afterwards the tides being unseasonable for the convenient landing of our men, this project was laid aside, especially when instead of one hundred volunteers scarce twenty-five offered themselves for this service, notwithstanding the council gave them all imaginable encouragement, by promising them to receive the same treatment as the other servants of the company had, in case they should be wounded or come to some other misfortune.

In the meanwhile, the enemy having been informed by some of our deserters, that by the departure of the Brazilians from Itamarika the garrisons there were much weakened, they thought fit to lay hold of this opportunity, to land such a force there, as should be beyond our power to drive from thence. The 15th of June, with the break of day, they surprized our spy-ship there, called the Sprew, with several barks and boats at the entrance called Passos (Markers); they got three prisoners, the rest escaping with the loss of two of their comrades killed.

The ship before Tapasima was set on fire by our own people, leaving the galiot that lay hard by, to the enemy, after they had taken out all her men, who went aboard the yacht called the Golden-Doe, lying before the north entrance. They landed with about two thousand men in shalops and other transport vessels, and Andrew Vidal and John Ferdinand Vieira wrote the same night the following letter to Mr. Dortmund, commander-in-chief of Itamarika, which they sent by a boy they had taken prisoner in the Sprew:

*Their Letter to Mr. Dortmund.*

"Most honourable and most brave,

"You are doubtless not unacquainted with the resolution of the inhabitants of this country to retrieve their former liberty; to effect which they neither want power nor any other means; but their chief aim being to encompass their design without effusion of blood, we thought fit to let you know that we are ready to attack you in this island with all our forces, unless you will prevent it by a treaty. For being sensible that you are passed all hopes of relief, we were willing to advise you to treat with us, according to the custom of war used in such cases; that in case hereafter things should fall out contrary to our expectation, by the fury of the conquering sword, you may not lay the fault thereof at our doors; for which reason it is, that we offer to you and the rest of the commanders there, all their arrears due to them from the company. Whereupon we expect your answer to-morrow.

"From our head-quarter, June 15, 1646.

ANDREW VIDAL DE NEGREIROS.  
JOHN FERNANDES VIEIRA."

The 17th of June the council received advice from Mr. Dortmund of their landing, desiring prompt succours, without which he would not be in a condition to maintain the island against them. It was therefore taken into debate, whether it were possible for us to bring together such a force, as without much hazard might be able to force the enemy from thence; but it was carried in the negative.

For it was alledged, that without manifest danger not above two hundred soldiers could be taken out of the forts of the Receif, which number was not fufficient to attack the enemy, who had already intrenched himself there, with hopes of fuccess: and, confidering that these forces must be transported thither by sea, we wanted ships (there being at that time not above two barks at the Receif) both to convey them thither, and to cut off the communication with the continent to the enemy. Besides, that at least fourteen days provisions were required for this expedition, in case the enemy should stand his ground, which at this juncture was not to be done, unless we would leave the magazines of the Receif quite empty; there being then no possibility of attempting its relief. The next thing under consideration was, whether the intrenchments on the hill might be defended or not? Against the maintaining of it was objected, that without fresh supplies of provisions this fort could not hold out a week, especially since the enemy, by cutting off the pipes of the spring that furnished them with fresh water, would soon put them under a necessity of coming to surrender; when it was evident, that they might post themselves betwixt the fort of Orange and this hill, and consequently prevent their receiving any supplies from thence.

Besides, that the hill, being of a considerable compass, was the more difficult to be maintained by our forces, the fort itself being irregular, and but slightly fortified on that side, especially where the old church-wall, making up part of the curtain, would not be proof against the enemy's cannon, and consequently expose the whole fort, with the garrison, to the mercy of the enemy: so that it being beyond all dispute in the enemy's power to cut off all communication with the fort Orange, it was unanimously resolved and ordered to leave the said intrenchments, and to retire with the garrison, and what provisions and ammunition they had, into the fort Orange, before their retreat was stopped by the enemy's troops; it being past all doubt, that in case they could maintain themselves in that fort, they could at all times, if they were masters of the field, recover the hill and the whole island.

The council were the more forward in coming to this resolution, because they had received certain information, that the enemy, who knew the importance of the fort Orange, had gained some of the gunners and volunteers of the fort by presents, who had engaged to assign them a place where it was easiest to be attacked, whereabouts they were to charge the cannon with gun-powder only, to facilitate their attack. Two of the gunners were hanged the 23d of June for this treachery; the rest made their escape to the enemy. For the better preservation therefore of this fort, our people left the entrenchments upon the hill the 21st of June, where the enemy posted a strong body of their troops immediately after. The council likewise ordered the yacht the Heemstede to cruize in conjunction with the Golden-Doe, before the north entrance of the island, to keep open free communication for us with our garrison, and to prevent the enemy from receiving any succours that way; and at the same time some provisions were sent thither for the use of the garrison.

But whilst things were thus transacting with various fortune, though for the most part to our disadvantage, and the so long expected succours from Holland not arriving, the want of necessaries encreased more and more every day in the Receif to such a degree, that whatever was found fit for sustenance, either in the public magazines, or with private persons, was applied to the common use, which however amounting to no more than one pound of bread a week for each single person, many died for hunger; their legs beginning to swell first, which was the fore-runner of certain death; cats and dogs, of which we had great quantities, were looked upon as dainties at that time; and you might see the negroes digging the half-rotten bones of dead horses out

of the ground, and to gnaw them with incredible eagerness; neither was the want of fresh water less insupportable, by reason of the heat of the climate, and the constant use of salt meats, all springs that were dug being brackish. The poor slaves, who had the least share of what was left, looked so ghastly and wild, with their eyes and jaws sunk, as appeared terrible to the most undaunted of men. At last (notwithstanding all the care taken by the council) things came to that pass, that the allowance of one pound of bread per week was fain to be taken away from the inhabitants, and allotted the soldiers; who, by the enticements of the Portuguese beginning to desert apace, had two pounds of bread allowed them, as long as there was any left; but when all was spent, and no remedy was to be found against this lingering evil, it was proposed by the council, and unanimously resolved, rather to die bravely than starve, and to fight their way through the enemy. The soldiers were to lead the van, the women, children, sick, and other unable people to keep in the middle, and the members of the great council, with the inhabitants, to defend the rear. The Jews were above all the rest in a desperate condition, and therefore resolved rather to die with sword in hand than be burnt alive, which is their doom in Portugal.

But when we were just reduced to the last gasp, all horses, cats, dogs, and rats being consumed, and a few quarters of farinha sold at the rate of betwixt eighty or ninety gilders per quarter, which however could not suffice for above two days longer, on the 22d of June (a day never to be forgotten) we saw two vessels with Dutch colours making all the sail they could towards the Receif; they had no sooner cast their anchors, and given us the signal by the discharge of three guns each, that they came from Holland, but you might have read in all our faces the sudden joy we conceived at this relief in our last extremity; there was nobody that could stand upon his legs for want of bread, but did crawl to the harbour, where you might hear the cries of the people weeping for joy at a great distance. These two ships, called the Falcon and Elizabeth, were freighted for the chamber of Amsterdam, and had left the Texel the 26th of April; they brought us the welcome news, that we might hourly expect the whole convoy. The captain of the Elizabeth told me himself, that having a very fair wind one day, he said to his crew, "I am sure they are in great extremity at the Receif, God send us fair wind and weather to relieve them in time," which happened thus accordingly. The captains were each presented with a gold medal, with the following inscription; "The Falcon and Elizabeth did relieve the Receif."

The 23d of June, Mr. Bas, a member of the council, was sent to Itamarika, to assist in the defence of the fort; by his letters of the 28th he advised that the enemy continued still in his post on the hill, and that he had sent abroad some spies to get intelligence. The 7th of July, the said Mr. Bas returned to the Receif with the companies commanded by Captain Bluecock and Conrad Held, leaving the two companies of Reinard Sikkema and Dignus Bysterman there in garrison. The enemy had some days before, after having blown up the fort on the hill, and set fire to their camp, left the island, carrying along with them all the cannon, and among them two brass ones. For when they saw that we were reinforced with several ships from Holland, they did not think fit to abide there till we should stop their passage back by our vessels; neither were they insensible, that without being masters of the fort Orange, they could not promise themselves the possession of the island, the south entrance being commanded by the said fort, and the north passage by our yachts.

The 20th of June, the council received advice from our head quarter at the house of John Lestān, in Rio Grande, that two sons of king John Duwy, with twenty-three Tapoyers, were sent thither by their father, to assure our people of his good inclination and

and service; but they refused to come into the fort Keulen before they had spoken with Rudolph Baro, who had been sent for upon that account. About this time several merchants set out some privateers, but as this could not be done without great charge, and there were but few ships at sea of the Portuguese, this turned to no great account, and consequently continued not long. A very odd accident happened to me much at the same time; for some of the labourers who were employed to unload a vessel belonging to the company, were got so drunk, that they had killed a man, and hurt several others, by letting a pipe of wine fall upon them; I went thither to prevent any further disorder, but was no sooner entered the ship, when on a sudden I found the silver galleons upon my coat turn black, and myself bereaved of my sight, which however I recovered by degrees in a few days after, the cause of which I attributed to the strong exhalations of the wine, that had been closed up for a considerable time before. Much about the same time a difference arose betwixt the officers of the army and the city-militia, about the chief command of the head guard in the Receif, which the city-officers laid claim to.

But to return to our so long expected succours.

The reiterated letters from the council of the Dutch Brazil to the States-General, and the directors of our company, wherein they presented their dangerous condition to them, had had such an influence upon the first, that they advised the directors of the company to send us a reinforcement of five or six thousand men, and a good fleet; for which purpose they sent them twenty-five companies of their regular troops, and gave leave for the raising as many more, as in all amounted to four thousand land soldiers, besides seamen and volunteers.

This fleet, consisting of a good number of brave ships, was ready to sail in November 1645, but by reason of a sudden and hard frost, were detained in the road of Uliessingen, till February 1646. One Mr. Bankert, admiral of Zealand, had the chief command of this fleet, and at the same time the following five gentlemen, who were appointed members of the great council of the Dutch Brazil, and were to relieve the old ones, were sent to their stations there; to wit, Walter Schonenburgh president, Michael van Goch pensionary of Uliessingen, Simon van Beaumont fiscal of the city of Dort, Henry Hacks, and Mr. Trowens, two great merchants of Amsterdam, and Mr. Heremite a lawyer of Dort, their secretary. One Sigismund Schoppe, formerly under Count Maurice, and who had commanded the land forces of Dutch Brazil, was now sent in the quality of commander-in-chief of these forces; he was a most experienced captain, and who always kept a strict discipline among the soldiers.

Never did any fleet sent from Holland to Brazil meet with so many unfortunate accidents as this, during the six months they were at sea. For within two days after they had left the Dutch coast, they were forced to cast anchor in the Downs opposite to Newport, where they lost two of their ships by stress of weather. After a stay of three days, the winds being somewhat allayed, the squadron under Mr. Van Goch set sail again, but was in two days after again forced into St. Helen's in the isle of Wight; three days before their arrival, a rich Dutch ship, valued at two millions of livres, then lately come from Brazil, was lost among the rocks, so that of three hundred persons no more than thirty were saved. Here they were detained by foul weather and contrary winds seven weeks, when another Dutch ship coming from Brazil chanced to cast anchor near them, and told them, that their countrymen in the Receif were drove to the last extremity; nay, that perhaps the place was surrendered by this time, they having no more than two months provisions left at the time of his departure. Hereupon it was resolved to continue their voyage with the whole fleet, notwithstanding the winds were:

were against them, but on the coast near Portland were again overtaken by a violent storm, in which they saw a Scotch ship with two hundred persons in her perih. The fleet under Mr. Varr Goch came with much ado to an anchor behind a rock, where they stayed till the fierceness of the tempest being allayed, they prosecuted their voyage. But scarce were they got through the channel, just as they were entering the Spanish sea, but a difference arose betwixt Mr. Van Goch and Mr. Beaumont about the flag, the Zealanders (in a council of war held for that purpose) allotting the precedence to Mr. Van Goch; whereas the Hollanders pretended the same to belong to Mr. Beaumont; but Mr. Van Goch persisting notwithstanding to claim the precedence, Mr. Beaumont gave a signal to the Holland ships to follow him, and so bid adieu to Mr. Van Goch, who after a troublesome and tedious voyage, in which he lost many of his men by sickness, and especially the scurvy, he arrived the 14th of July with his ship in the road of the Receif, being the first of the five new lords of the council that arrived in the Dutch Brazil. The 31st of July 1646, the ship the Bluecock, and the Uliessingen of Zealand, came likewise to an anchor there; in the first came Mr. Trowens, and in the last Colonel Sigismund Schoppe.

The 6th of August the said colonel gave an account to the members of the council how, pursuant to their orders, he was advanced with four hundred and fifty men as far as the fort of Olinda, to discover the countenance of the enemy, and to take some prisoners; that they had made a shew of attacking us, but after some slight skirmishes retreated, and with a body of their troops marched through Bracer de St. Jago, to cut off our retreat; but our people forced them to retreat again with the loss of several of their men killed and wounded; whereas we had but one wounded during the whole action, besides Colonel Schoppe himself, who received a slight hurt on his leg.

The 8th of August the Arms of Dort, and in it Mr. Beaumont, arrived before the Receif; he was conducted the next day with all imaginable respect to the Receif.

The 12th, late in the evening, Mr. Walter Schonenbergh, president of the new council, and Henry Hacks, arrived in a bark from the north in the Receif, where they were received by all the citizens and soldiers in arms; they had been forced to leave their ship, called the Middleburgh, before the north entrance of Itamarika, as likewise the Dolphin, laden with provisions on account of the chamber of Zealand, both which were seen the 30th of July, off Olinda; but being forced back by contrary winds, the last of these two did not come to an anchor near the Receif till the 13th of August.

The same day a certain negro deserter coming to the Receif brought information that the enemy intended to erect a fort on the pass of the Baretta, to prevent our excursions into the open country; whereupon it was resolved, with unanimous consent of Mr. Schonenbergh and the whole council, as likewise with the approbation of Colonel Schoppe and Admiral Lichthart, to prevent the enemy's design by fortifying and maintaining the said pass, as being the only inlet we had left for the recovery of the whole Dutch Brazil, all the other passes being so strongly fortified by the enemy, as not to be attempted without great hazard.

Accordingly the said Colonel Schoppe marched the same night with all the forces he could bring together, ordering the boats laden with materials for the intended fortifications, to follow him the next tide. The colonel at his arrival having soon chased the enemy from thence, and possessed himself of the house of the Baretta, sent for immediate orders to the council, to know whether he should continue in that post all night; who, with the approbation of the new president Schonenbergh, dispatched Mr. Bullestraet thither immediately to take a view of it, and to make his report accordingly; he returned

returned the 14th against night, and reported to the council that he had found the work there very far advanced already, and the fortifications in such a state, that they would soon be in a posture of defence against any attempts from the enemy.

The 13th of August Rudolph Baro, who, as we told you, was sent with some presents to John Duwy, king of the Tapoyers, brought a letter from the said king, dated the 1st of July, to the council, wherein he thanked them for the presents and desired they would be pleased to send him some iron weapons, he being then in war with the Pojukas, and that, after he had humbled them, he would march with all his forces against the Portuguese.

By this time the president, Walter Schonenbergh, and the other members of the new great council, being arrived at the Receif, and having delivered their commissions from Their High and Mightinesses, the States-General, His Highness the Prince of Orange, and the council of Nineteen, constituting them joint-governors of the Dutch Brazil, the late members of the said council; to wit, Henry Hamel, Bullestraet, and Peter Bas, ordered all the colleges and other persons of note to be called together, to be present at the instalment of the future lords of the council.

Accordingly all the members of the court of justice, and of the finances, next the magistrates and commissaries of Maurice's Town, then the ministers and church council, together with the sea and land officers, the heads of the Jews, and last of all the factors and book-keepers of the company, being assembled, Mr. Walbeck told them, in the name of the council, that Mr. Henry Hamel, Mr. Bullestraet, and Peter Bas, had called them together, to lay down in their presence the reins of the government, and to surrender the same to Mr. Schonenbergh, and the rest of the lords appointed by Their High and Mightinesses, by His Highness the Prince of Orange, and the council of Nineteen, for the supreme management of the government of the Dutch Brazil; returning them their hearty thanks for the services each in his respective station had done to the government, and for their constant fidelity during these intestine commotions, exhorting them to persevere in the same obedience to the new council; whereupon the new president and other members having received the congratulations, first of the old council, and then of the other colleges, they from thenceforward transacted every thing by their own authority, though they, in all affairs of moment, took the advice of the said members of the old council, during their stay in Brazil; for which purpose they desired them, the 20th of August, to appear every day at eight o'clock at their assembly, and to assist them with their counsel for the better management of the affairs of the company. The 19th of August Mr. Trowens died late at night.

The 3d of September was appointed for a general muster of all the forces in garrison in the forts near the Receif. Mr. Heck and Commissary Zweers were ordered to take a review of those in the fort Ernestus, Wardenburgh, and Boavista; Mr. Beaumont and Moucheron in the fort of Anthony Vaez and Maurice's Town; Mr. Van Goch, Hamel, and Aldrich, at the Receif, and of those belonging to the artillery; Mr. Raetsfield and Crowranger, at the Baretta and adjacent quarters; Mr. Volbergin and Commissary Stricht, in the forts William and Frederick-Henry; Mr. Bullestraet and De Witt, in the fort Bruin, and the land and sea fort.

The 4th of September, a pardon being agreed upon by joint consent of the old and new council, the same was, the 6th, sent by a drummer to the enemy, with a letter to the Portuguese commanders from the Bahia, desiring them to withdraw their forces.

The 10th of September being appointed for a review of the militia of the Receif and Maurice's Town, the same was found to consist of 700 men; they received the thanks of

of the old council for their faithful services during the present intestine war, and then returned their thanks to them for the prudent management of the government.

The 13th of September, the letters written by the Portuguese colonel the 11th of September, in answer to ours of the 6th, were read in the great council, filled with untruths and fictions of their own invention. They pretended that they were prevented by the inhabitants from retiring to the Bahia; besides, that they wanted transport vessels, their ships being detained in the bay of Tamandare, and that they must expect the King's orders for that purpose.

They took also a great deal of pains to magnify their strength. The 12th and 13th of September several letters were dispersed abroad by the Portuguese, directed to Justice Daems, to Matthew Bek, Balthazar de Fonseca, Duarte Sarayva, Caspar Francis de Costa, being all merchants, and written by John Fernandes Vieira, in which they again exaggerated their own number, and spoke very despicably of ours, threatening that, in case they should be forced to quit the country, they would destroy all with fire and sword, as they had already done in some parts of Parayba. The contents of these letters were as follows:

*A Letter from Vieira to some Merchants in the Dutch Brazil.*

"Experience has, without question, convinced you sufficiently of the reasons that moved us to undertake this war, and the success we have met with is an ample testimony that God was pleased to inflict this punishment upon our enemies for the many outrages committed against the inhabitants of this country. This is, however, in a great measure to be attributed to the general consent of the said inhabitants, who having now forced themselves from the tyrannical yoke of their oppressors, ought to expect from me, who, though unworthy, am appointed the chief manager of this war, to be backed in so brave a resolution. I would not have you be ignorant of our strength, which, in comparison of yours, exceeds all that can be said upon that head; I will only tell you that, as by our quitting the captainships of Parayba and Goyana, we are considerably increased in number; so it is most evident from thence that the inhabitants chose rather to lose their possessions than to endure any longer the indignities that were put upon them, which was the true cause of their insurrection, and not, as it is given out among you, because they were unable to satisfy their creditors; because they left more than what would have paid their debts. But if it should happen so, that the said inhabitants should not be able to maintain themselves by force of arms, they are resolved to lay all the other captainships desolate in the same manner.

"Having, therefore, well weighed the reasons which seem to promise us a good issue of this war, I thought myself obliged, as a friend, to advise you, that that party is backed by reason, and the unanimous resolution of many thousands; for, I can assure you, we are at least fourteen thousand strong, besides the negroes and Tapoyers, dispersed in several places, from Rio Grande as far as Rio St. Francisco. Kamaron commands six hundred musqueteers, Henry Dias eight hundred negroes, two hundred Minos, and seven hundred Tapoyers; and those of the Sertan are at our devotion, whenever we are pleased to call for them; but, above all the rest, we have God on our side. We are not ignorant, that before the arrival of Mr. Sigismund Schoppe, your whole force consisted not in above six hundred men, and that the succours come along with him do not amount to above one thousand two hundred more; most of which are boys, and the rest either dead or sick. You see I am well acquainted with your strength, having killed and taken prisoners about two thousand six hundred of your  
best

best soldiers, and five hundred Brazilians, besides the wounded that were carried to the Receif; when our troops had no other arms than pointed sticks and clubs. These are blessings from heaven, for if we are able to perform these things without powder and ball, what may not be expected from our forces, now they are strengthened with good troops, and provided with sufficient arms and ammunition? All which I confirm to you upon my word, to be nothing but the real truth; and, had it not been in respect of those colonels sent from the Bahia, and of His Majesty of Portugal, I had by this time been master of the Receif, or some of the forts, or at least I might have done much greater mischief: but if matters are not brought to a happy conclusion, I am resolved to act like a desperate man, and not leave any sugar-mills, cattle or negroes in the country, but will rather turn all to ruin and destruction, before we will be compelled to submit again to your obedience.

“As these presents may serve as a warning to you, so I hope you, and the rest of the merchants, will not delay to enter with us into such articles of agreement, as may be most conducing to the preservation of your possessions; for I would have you call to mind, that there are many *ingenious* (mills) reduced at present to such a state, as not to be likely to be in a condition to be used these ten years next to come. The Vergea is in no better condition than Parayba and Goyana, and the cattle (without which the mills cannot subsist) destroyed in most places.

“Colonel Sigismund Schoppe, I suppose, pretends to keep the field against us, as he did in the last war, but he will find himself egregiously mistaken, because the inhabitants will not be of his side; for if I should hear of one that was, I would cause him to be hanged immediately. You allege that we are vassals of the company, but when was ever any conquered nation treated thus as we were, worse than the vilest slaves, of which you are sensible as well as we; so that, being forced to break our chains, we do not owe you any further obedience. If we had not been in hopes of this opportunity, we would long before have implored the assistance of the King of Spain or France; and if those had failed us, to have had recourse to the Turks and Moors. I desire you not to throw away this letter, because experience will convince you of the truth of it; and that we shall pursue the same methods here as we have done in other places; wherefore, I would have you not give credit to any body, except to those that come in person from those places; I having told them nothing but the bare truth, which you will find in effect thus: in the prosecution of this war, I hope you will consider what is most for your interest, in which I am ready to serve you; for though your governors do not direct their letters to me, it is I that have the chief management of this war, and under my command; the power of the colonels come from the Bahia extending no farther than over those troops they have brought along with them. A Royal de bon Jesus, September 11, 1646.

“On the 10th of this month, the before-mentioned colonels having sent an answer to a letter directed to them from your council, by one of our captains, several insinuating questions were asked him concerning the present war, which he, perhaps, not answering according to their expectation, they replied more like drunken cowards than soldiers; if they will be pleased to come out and tell me these things, I will try whether their swords are as nimble as their tongues are, and teach them what respect is due to the messengers of those persons who have the supreme command here. This I write to you at present, but shall not fail in due time to make my words good by the sword, of which your people feel the daily effects as often as they dare to come out of their forts. Pray be not deceived, for Brazil is not allotted to you; not questioning but that God will bless our arms, and if we happen to die, we shall lose our lives in the

defence of our holy religion and liberty ; and all those that have refused to accept of our offers will pay for it with the loss of their lives, possessions, and debts.

" A *Reyal*, Sept. 12, 1646.

(Signed) JOHN FERNANDES VIEIRA."

The 14th of September, a man of war, called the *Ter Veer*, equipped by the chamber of Zeeland, (aboard of which was Colonel Hinderfon) arrived before the *Receif*, after a voyage of fourteen weeks. The 24th of September, the enemy caused some pamphlets to be dispersed, promising, in very haughty terms, a general pardon, and a composition of their debts, in case we would leave the island. The 27th of September, Colonel Schoppe returned with some troops from Goyana, by the way of Itamarika ; I had not met with any enemy, but had found all the sugar-mills burnt in the first place, but the sugar-reed and farinha fields in a pretty good condition ; we received afterwards further information, that the sugar-mills of Goyana were not quite burnt down. The 27th of October, a conference was held betwixt the old council and Mr. Van Goch, unto whom they imparted their advice concerning several matters relating to the state of the Dutch Brazil, and especially to the planting of the mandioka or farinha-roots, and the killing of cattle, which they advised to be done with great circumspection, Brazil being not able to subsist without a considerable number of oxen, which were continually employed in carrying of sugar-reeds, wood, and other necessaries, to the mills.

For the planting of farinha-roots they proposed Itamarika, Rio Grande, and Parayba, which countries were thought sufficient to supply their present occasions ; provided it were done before the season was elapsed.

In the meanwhile, Colonel Schoppe having made several, but, for the most part, unsuccessful attempts, upon the enemy, our forces were thereby so diminished, that we were not in condition to make head against the Portuguese near the *Receif* ; which made our council take a resolution to endeavour the recovery of Rio St. Francisco, the execution of which being committed to the management of Colonel Hinderfon, proved more fortunate for us, he meeting with little resistance thereabout.

Accordingly, the 24th of October, the following ships, Count Eano admiral, Loanda vice-admiral, the Arms of Dort rear-admiral, the Bluecock, the Watchful Dog, the Greyhound, Eagle, the Star, Heemstede, and the Flight, with eight barks, set sail under the command of Admiral Lichthart and Colonel Hinderfon to the south. The 17th of November the council received advice, that our troops under Colonel Hinderfon were safely landed at Korasippa, and, marching from thence to Rio St. Francisco and the fort St. Maurice, had met with no opposition from the enemy, who had begun to raise the said fort. That they had been seconded by the small vessels, which had followed them up the river, which our forces had passed, and were marched to Seregippe del Rey, having left some behind to repair the fort ; and that four Portuguese had requested their pardon, which was promised them. Whilst our forces were employed thereabouts, I was ordered thither to take care of the necessary provisions (of which there was great plenty) for our troops ; having accordingly caused my cargo to be embarked aboard a ship called the *Brownish*, Francis Frantz master.

I set sail the 24th of November. We were carried with a brisk gale as far as the mountains, called by our people the Saddle-hills, from their shape, the coast all thereabouts being white sand downs. About half an hour after sun-set, we saw ourselves off the bay of Tamandare, and from thence continued our course with a fair wind, which in two days after brought us happily to the entrance of that great river, which

is so broad at the beginning, that a six-pounder can scarce reach across it; it falls with a very soft current into the sea, its waters being low in the winter, but increase in the summer, perhaps by reason of the snows that are melted by the heat of the sun. About fifty leagues from its mouth is a great cataract or waterfall, surrounded by a great many islands; the sea at its entrance meeting in tempestuous weather with the current, are so boisterous, that they strike terror into the stoutest mariners, and carry away great pieces of the continent along with them. We entered the said river, -but were forced to cast anchor immediately after sun-set, for want of an east wind to carry us higher up, which commonly begins to blow thereabout at three in the morning. The country appeared very pleasant on both sides, and we saw abundance of wild beasts near the river-side, and several huts made of straw. We were detained near twenty-four hours upon a sand-bank, which, after we had passed, we came at last to the village called Penedos, situate upon a high hill; here we landed with our boats, and found a few houses which were rebuilt by our people, the rest being burnt by the enemy before their flight. In the fort was formerly, in the time of the Portuguese, a church, which we turned into a magazine; it was surrounded with a goodly wall, the river passing by it on the north side, where the hill is very steep.

The 30th of November Admiral Lichthart was seized with a sudden and violent illness, occasioned by his drinking too much cold water after he had over-heated himself before; he was carried into a boat, with three soldiers under the command of an officer, lower down the river, but soon after lost his senses, and in my presence expired. The next day his corpse being put in a coffin was carried aboard the *Golden Star*, being conducted by the chief officers there present, and four companies of soldiers, to the river-side, who gave three salvoes with their muskets, as did the cannon from the fort and ships, in order to his interment at the Receif.

Towards evening, as I was going aboard our ship, the boat overturned by the swiftness of the current, and, had I not been a good swimmer, I had infallibly been drowned; the master threw out a great cable over-board, by the help of which, and God's mercy, I got safely into the ship. The soldiers in the meanwhile scoured the country, and brought seven hundred oxen, (of which there was plenty,) and three hundred calves, into our quarters, having been at pasture in one of the adjacent islands of the river, under the guard of some soldiers; they were not extraordinary fat, but tolerable good meat. The soldiers' huts were for the most part planted on the north side of the hill, which being composed of branches and leaves of trees, took fire accidentally the 3d of December, with such fury, that in a quarter of an hour the whole quarter was in a flame, notwithstanding that the alarm was given immediately, by the beating of drums and the sounding of trumpets; some soldiers that were then swimming in the river, lost all their cloaths by this accident. It was well it happened by day; for if it had been in the night it would have put us under a great consternation, it being generally reported that it had been done by treachery.

There was at that time a plentiful crop of tobacco upon the circumjacent fields, but was not quite fit for reaping, which must be done at a certain season, before the low grounds overflowed. The colonel desired me to provide those who had lost all, with new cloaths, and to deduct it out of their pay; but I told him that I being only a factor, could not do it without special order from the council, some having but little pay due to them. The 25th of December we received intelligence that the enemy began to appear in a considerable body, whereupon the companies of Captains Cousin, Schut, Gyseling, La Montayne, and of a Brazilian captain, called Tomee, were sent

in quest of them, with orders to set their stables on fire, and bring the cattle to our quarters. The next following Monday, word was brought us, that our troops were so narrowly enclosed by the enemy, that it was feared scarce one of them would escape with life. Whilst we were in a great consternation, not knowing what resolution to take, a Brazilian brought us the unwelcome news, that our whole body was routed and dispersed, and Captains Schut, Cousin, and La Montayne, killed upon the spot. He had scarce finished his doleful relation before a German soldier, who had escaped the fight, by his bleeding wounds and his words gave us a confirmation of what had been told us before, with this addition, that Captain Gyseling's lieutenant, La Montayne's ensign, and one Kilmet, belonging to Captain Schut, had fought their way through the enemy, with about thirty soldiers, and would soon be here. This mishap was chiefly attributed to the fool-hardiness of our troops, who contrary to Colonel Hinderfon's command, having at once discharged all their musquets against the enemy, fell in pell-mell, without any regular order, with sword in hand upon the enemy, which the enemy perceiving, retreated back and drew them into an ambush. Towards night we saw several soldiers miserably wounded with darts come to our quarters, some who had thrown away their arms, were forced to cast lots for their lives, the misfortune of which fell upon a Dutchman and a Brazilian, who being tied to a stake to be shot to death, were however pardoned by the colonel. Captain Gyseling's lieutenant, who came without his arms to the fort, was sent immediately to the Receif, where his sword was broke over his head, and he declared incapable of serving the company for the future, notwithstanding he had done them faithful service for seven years last past.

By this time I was sent for to the Receif, so that after having taken my leave of the colonel and Mr. Dames, I embarked on board the Bat the 16th of December, and we were the same evening with a fair wind and stream carried to the mouth of the river. It being a fine moon-light night we caught abundance of Zaggers, as we call them, a fish of a very good taste, and continued our course with a brisk gale: not far from the river's mouth we met with four of our ships, who told us they were to fetch provisions, but in case they could not, were to return forthwith to the Receif. The 18th, we advanced but little, the ships being not out of sight of us, near the river's mouth, but did catch more fish than we were able to eat. The 20th we were likewise becalmed, and we perceived the moon to be half eclipsed for the space of two hours. The next following day we sailed so near to St. Antonio, that we could see them walking along the sea-shore. Towards night we discovered Porto Calvo, about thirty leagues from Rio St. Francisco. We were often becalmed, but caught abundance of king's-fish and cods, and saw fires in many places along the coast. The 24th of December we came so near to the cape of St. Austin that we discovered five ships and seven row-barges in the harbour; we might have reached some of those that went ashore with our shot, had it not been for the sand-bank which hindered our nearer approach. About noon we came before the Receif, but it was so foggy that we could scarce discover the water-fort; nevertheless we ventured in, and I got ashore immediately, with an intention to give an account of the state of affairs in Rio St. Francisco to Mr. Schonenbergh, being conducted thither by Colonel Schoppe, who happened to meet me immediately after my landing.

The 27th of October the enemy had laid two ambushes in the way to the fort Prince William, beyond the redoubt Kiik. They did not stir till towards noon, when perceiving a company of our soldiers marching along the dike, they fired so briskly upon

them, that they killed eleven, wounded twelve, and took three prisoners; yet not without the loss of some on their side.

In the meanwhile the Tapoyers being much exasperated at the murder of the before-mentioned Jacob Rabbi their commander, had left our party; the council did what they could to appease them, imprisoned and banished Garfman the author of it, and confiscated his estate, notwithstanding which, the Tapoyers could not be prevailed upon to join with us as before.

The 18th of November Mr. Van Goch entered into a conference with the members of the old council, whether it might not be feasible to embark what forces we were able to spare on board our great ships, and to attempt to make a powerful diversion to the enemy by attacking him in some place or other. But those of the old council having represented to him the danger of this enterprise if it should miscarry, whilst they were blocked up in the Receif, the further debate thereof was deferred till the next day. It was then proposed, upon second thoughts, that in case we could bring all our forces together, something of moment might be undertaken without manifest hazard, whereby to oblige the enemy to withdraw his forces from the Receif; but Mr. Van Goch apprehending no small danger in case we miscarried, they came to no resolution for that time.

It being found by experience that all our promises of pardon had proved ineffectual, it was proposed by Mr. Van Goch the first of December, whether it was not most expedient to give no quarter for the future; unto which it was answered, that very seldom quarter had been given by us, and few prisoners were taken, and that the enemy had likewise killed most of our people that were fallen into their hands, but they judged it not convenient to refuse quarter to all without distinction, which would induce such of the inhabitants as had remained quiet hitherto, to betake themselves likewise to their arms.

The 23d of November we laid an ambush for the enemy near the fort of Affagados, who being by some few sent out for that purpose engaged in a skirmish, and pursuing our men with great eagerness under the cannon of the fort, were set upon by those lying in ambush, who killed and wounded many of them.

The 12th of December the corps of the late Admiral Lichthart was interred, one company of the city-militia, and two of soldiers appearing in arms upon that occasion, gave him three salvoes with their musquets.

The 30th of December the Eagle yacht brought letters to the council, dated in Rio St. Francisco the 4th of December, intimating that in an island a little above the fort, one Colonel Rebella was arrived with two hundred men from the Bahia; and that they expected another reinforcement, as well from thence as from the Vergea; that our people being sent higher up the river, had attacked some of the enemy's troops, but they made their escape to the other side, leaving their arms and clothes behind them.

The 2d of January 1647, Colonel Schoppe, who had been with three hundred fuzileers in Goyana, returned to the Receif, giving an account that he had taken a view of all the rivers thereabouts, but met with no enemy.

The 5th of January the council received an account of the before-mentioned action in Rio St. Francisco, viz. five companies of our forces being sent to Orambou, to beat up the enemy's quarters, they met with a body of one hundred men, whom they attacked and put to flight; but soon after our forces were attacked by a much stronger body, who put them to the rout, with the loss of one hundred and fifty men; of our officers one captain was killed, and five taken prisoners, viz. Captains Samuel Lambart,

Lambart, La Montagne, Gerrit Schut, Kilian Taylor, Daniel Koin, and three lieutenants, Joost Koyman, Anthony Baliart, Jeronymus Hellemen, and one ensign.

The 8th of January Mr. Van Goch, in the name of the new council, advised with those of the old council, that it being resolved among them to send for a considerable number of their forces out of Parayba, in order to gather a body of troops for some important design, they desired to be informed concerning the present condition of the said captainship; and whether the city of Parayba and St. Andrew might be defended by a small garrison; whereupon those of the old council replied, that the town of Frederica had no fresh water but what they must fetch at a mile's distance, and consequently might be cut off by the enemy; the same thing might be done at the passage leading to the river side; besides, that there was no fortifications belonging to the place but the monastery, which was of no great consequence, and the Guarte Domaiges church, which had been fortified by the enemy in this war. As to St. Andrew it was no more than a sugar-mill, about four hours distant from the city of Parayba, situate upon the bank of the river; that the communication of this place with the fort of St. Margaret might easily be cut off by the enemy, as being likewise about four leagues from thence, but it might be relieved from the water-side, and yet not without great difficulty. Mr. Van Goch told them he would make his report thereof to the council.

The 12th of January the council received advice, that the enemy were, with a strong body of troops, entered Parayba, and advancing very near to the sugar-mill of St. Andrew's, had in the night-time surprised some Dutch and Brazilians, to the number of fifty men, women and children, of which they had killed some, and ripped up the women's bellies.

The 13th of January some pamphlets were again dispersed by the enemy, containing in substance, that since the inhabitants of the Receif were now beyond all hopes of further relief, it would be their surest way to come to an accommodation; for they were resolved to venture all before they would lay aside their design; but if all failed, they would destroy the whole country, and so leave it: they exhorted them not to be deceived by the insinuations of those who belonged to the company, and called them rebels; they being no more to be styled so than the Dutch themselves, who had asserted their liberty against Spain.

The 17th of January four negroes belonging to one Isaac de Rastier, who had been taken prisoners some days before in Parayba, came over to us into the Receif, and brought advice, that the enemy, after having tarried but a little time in that captainship, where they had killed five Dutchmen and some Brazilians, were retired from thence.

The 22d of January, early in the morning, the enemy began to batter the wooden fort near the Baretta, from a battery on the bank of the south side of the river, which he continued the whole day, but desisted at night; the garrison having been reinforced about noon with five companies of soldiers, and some provisions; because Mr. Hamel, one of the members of the old council, did represent to Mr. Van Goch, that though the fort itself was so inconsiderable, as scarce to be worth the trouble of defending it by a good garrison, yet at this juncture, when the enemy had made his first attempt upon it, it would not be adviseable to desert it, for fear of giving encouragement to the enemy to attack the other forts; but that on the contrary, as long as they did meet with a brave resistance here, they would not be so forward to attempt others; especially since we had the conveniency of relieving them with boats at high water, with low tide by land by the way of the sand-ridge; and that we might annoy the enemy

enemy with the cannon from our yachts in his trenches, as we had done that day. About the same time, a map was ordered to be made, shewing the true situation of the Receif, with the turnings and windings of the adjacent rivers and marshes, as far as the Baretta, for the better instruction of the council.

The 24th of January in the morning, news was brought that the enemy had raised the siege of the fort of the Baretta the night before, and carried off all their cannon, being sensible that as long as they could be annoyed from the sea-side, and we be able to reinforce them daily with fresh troops, they could promise themselves but slender success: but besides that, our people were to struggle against the enemy and famine, they were frequently troubled with desertions; many of our soldiers, nay, even to the serjeants and other officers, who begun to despair of our case, running over to the enemy, even at that time when the before-mentioned ships, the Faulcon and Elizabeth, were in sight of the Receif.

Now the members of the old council began to prepare in good earnest for their return to Holland, they had already, in December 1646, solicited Mr. Schonenbergh, president of the new council, to order some ships to be got ready to transport them thither, and the Ulyessingen had been appointed for that purpose; but the same being not as yet returned from cruizing, they applied themselves, the 25th of January 1647, to Mr. Van Goch, and told him, that whereas, according to their commission, one of them should return after the expiration of three years, they had continued in Brazil these six years, Mr. Kodde having indeed been ordered to return about that time, but his place not being supplied by another, he died before his departure: that they had, for these three years last past, solicited their return, and had two years ago received promises of being relieved by others; which had not been performed till within these few months, to the great prejudice of themselves and their families: Mr. Van Goch promised them to take effectual care to have the ships got ready, and to send for the ship the Ulyessingen, in order to their return home. At the time of the accession of the new council to the government, and the departure of Henry Hamel, Adrian Bullestraet, and Peter Bas, late members of the great council, the following forts remained still in the possession of our West-India company:

The fort of Keulen, at the mouth of Rio Grande, provided with twenty-eight brass and one iron cannon.

The redoubt of St. Antonio, on the north side of the river Parayba, with six iron pieces of cannon.

The fort Restanguets, in an island of the same name within the river Parayba, with four brass and five iron pieces of cannon.

The fort Margaret, on the south side of the river Parayba, with fourteen brass and twenty-four iron pieces of cannon.

The fort Orange, in the isle of Itamarika, with six brass and seven iron pieces of cannon.

Nossa Senhora de Conceptiano, an old battery upon the hill of Itamarika, with two brass and eight iron pieces of cannon.

The redoubt called Madame de Bruin, three iron pieces of cannon.

The fort Wardenbrugh, alias the Triangular Fort, betwixt the Bruin and the Receif; the first provided with four brass and five iron pieces of cannon; the last with fourteen brass guns.

The Land Fort, alias St. John's, with eleven iron guns.

The Water Fort, at the mouth of the river of the Receif, with seven brass guns.

The

The fort Ernestus, with five brass and three iron pieces of cannon, and the battery with five brass and two iron pieces of cannon.

The Receif.

Maurice's Town, upon the island of Anthony Vaez.

The fort Frederick Henry, alias the Quinquangular Fort.

The redoubt of stone near this fort.

The redoubt Kiik, betwixt the fort Frederick Henry and the fort Prince William.

The fort Prince William, upon the river Affagados.

The forts then in possession of the Portuguese, and taken by them from the Dutch, are these :

Seregippo del Rey, Rio St. Francisco, and Porto Calvo, being reduced by famine, were rased by the Portuguese, being sensible that our people could not maintain themselves there without erecting of new ones, which was not to be done without a vast charge. Near the point of Tamandare, the place where the Portuguese from the Bahia first of all landed their men ; and where afterwards their fleet was beaten by ours, the enemy laid the foundation of a fort for the security of that harbour, where ships of great burthen might safely ride at anchor.

The 23d of January, Mr. Beaumont was sent by the new council to confer with the late members, concerning the present condition of Rio St. Francisco, and what was best to be done there : they answered him as before, that the fort as it was now could do but little service, and that therefore it would be worth our consideration, whether the proposals made by them in writing might not now be put in practice. The said Mr. Beaumont further proposed, whether it would not be requisite to erect an earthen redoubt for the defence of the Baretta ; unto which those of the old council replied, that considering the vast charge, and the small benefit which could be expected from it, the same might be more conveniently built in some place or other, to facilitate our passage into the open country. Beaumont was of opinion, that thereby the enemy would be prevented from advancing to the fort Frederick Henry ; but the old members told him, that notwithstanding we had now a fort on the Baretta, we could not hinder the enemy's coming upon that island near the fort, unless we would keep a considerable force there for that purpose ; that we need not fear their transporting any cannon thither, because their retreat might be cut off at high tide ; neither could they, from thence, do any mischief to the Receif, it being evident, that the shot of our biggest cannon in the fort Frederick William could not reach the said island. The same evening, Mr. Van Goch and Hack came to tell the members of the old council, that the Hollandia and Ulyessingen would be ready in a little time, in order to conduct them to Holland, the Ulyessingen being ordered forthwith to return from the Bahia, whither she was sent a-cruizing.

By this time the enemy had blocked us up so closely in the Receif, that on the land side we durst scarce look without the gates ; and a certain Portuguese had prepared us a worse entertainment, having invited all our chief commanders abroad to his daughter's wedding, during which time the enemy were to have surprised the city ; but this design being timely discovered by some Portuguese and Jews, miscarried.

About the 15th of October, the Portuguese began to rebuild the fort Bon Jesus, as it is called by them, but by us Altena, on the other side of the river. We had some notice of it by deserters, but could not discover the truth of it, because they kept us from advancing that way by their cannon, and the place was surrounded on all sides with woods ; but as soon as they had caused them to be cut down, we discovered it both by sight and the roaring of their cannon, which thundered incessantly against the

the city, caused such a consternation, as is not easy to be expressed, most people sheltering themselves in vaults, to avoid the fury of the enemy's cannon. Of this I saw a most miserable spectacle in a certain young lady, a niece of the late Admiral Lichthart, who being come to visit one of her acquaintance lately married, had both her legs shot off by a cannon bullet, which at the same time killed the new-married woman upon the spot. At the outcry of these miserable wretches I ran thither instantly, my house being just by, where I was an eye-witness of their misery, the poor young lady grasping my legs with such an agony, that she could scarce be pulled off with all the strength I had; it being a most doleful spectacle for me to see the floor covered with the legs and arms of these miserable wretches; the poor young lady died likewise within three days after. It was not long after that I narrowly escaped the same misfortune; for whilst I was talking with some of the inhabitants of the city, as I was going the rounds, two of them were killed by a cannon bullet, and another had both his hands shot off as he was lighting his pipe. Nay, we were forced to remove all the ships out of the harbour for fear of being sunk. Colonel Schoppe, in the meanwhile, had made himself master of and destroyed Taperika, 2,000 Portuguese only having saved themselves by flight; but by the many unsuccessful encounters we had with the Portuguese, our forces decreasing daily, whereas theirs increased, Colonel Schoppe was ordered to command Colonel Hinderfon to leave Rio St. Francisco, and to join him in Taperika; but this stood us but in little stead, being not long after obliged to leave likewise Taperika for the relief of the Receif. All our force consisting of about 1,800 men, being now come to the Receif, (where they had not provisions for above seven months left) it was several times taken into consideration, what was best to be done at this juncture. Colonel Schoppe, with some other officers, were of opinion not to hazard an engagement, our forces being so much inferior to the enemy, but to stay for a more favourable opportunity; but it was carried by the majority to venture a general fall for the relief of the Receif, the chief command thereof being given to Colonel Brink, because Colonel Schoppe was not as yet cured of his wounds he had received in a late encounter. Our forces marched towards evening as far as Guerapes, a place fatal to us the year before by the defeat of our people, the fields thereabouts being as yet covered with their bones. The Portuguese no sooner perceived us to be upon the march, but they left the fort Altena, of which we having got notice, possessed ourselves of it immediately, and thus drew the thorn out of our foot. But the 16th of May proved the most fatal of all we had seen for many years before in Brazil. For though our forces attacked the enemy with bravery, and maintained the fight with great obstinacy for some time, yet the enemy, flushed with their number and late success, with 2,500 of their best men, at last forced our men to give way, and afterwards to fly, being pursued by 150 Portuguese horse; so that both in the fight and flight, we lost above 1,100 men, among whom were Colonel Brink, and almost all the rest of our commanders: we lost also nineteen colours, and all our cannon and ammunition we had carried along with us. It was not till five days after before leave could be obtained to bury our dead, which began to corrupt and stink most nauseously, by reason of the burning heat of the sun. This was the last effort we were likely to make in the field; all our future care being for the preservation and defence of the Receif, unless we should be supplied with fresh succours from Holland: but the same arriving but slowly, most people began to fear, that, in case God Almighty did not send us some unexpected relief, we should be at last forced to leave that place likewise to the mercy of the enemy; the great council laying the fault of our late misfortunes upon the council of war, and these again upon them, alledging that the soldiers were ill-provided for, and wanted their pay. As for myself, being

being sensible that things would be worse and worse every day, I thought it the safest way for me also to desire a passport for my return to Holland, which at last with much ado I obtained, and so prepared every thing for my voyage. But before I leave Brazil, I ought to give you a short account of the products of the said country.

The captainship of Pernambuko, and Brazil in general, being not only well stored with cattle, but also with several sorts of herbs, trees, and fruits, we will give you a short view of them, and begin with the Mandiiba, and its root, called Mandioka, unto which the Brazilians stand chiefly indebted for their sustenance. The most parts of America are ignorant hitherto of wheat or any other grain, instead of which, nature has furnished them with a certain shrub, the root of which dried and powdered, and afterwards boiled and baked as we do our bread, is the common food of the inhabitants of America. This shrub grows in vast plenty every where, being by the Brazilians called Maniiba and Mandiiba, and its root Mandioka. There are divers kinds of it, distinguished by the Brazilians by different names, but the root is in general called mandioka. Their leaves are small, green, and long, pointed at the end, which grow upon large stalks or branches, each of which has five, six, or seven leaves, growing in a cluster, resembling a star, called by the Brazilians, Manikoba. The stock or stem is distinguished by certain knots, not above an inch thick, but generally six, sometimes seven feet high, from whence sprout forth several branches, which producing again lesser stalks, bear the before-mentioned leaves. It bears a small flower of a pale yellow colour, and of five leaves only, with small stalks within, which at last turn to seed. The root mandioka resembles our parsnip in shape, being two or three foot long, and about a man's arm thick, but grows thinner towards the bottom. Its outward rind resembles that of a hazel-tree, but its substance is white, affording a milky sharp juice, which is pernicious to beasts. This shrub grows in dry, barren, and sandy ground, its nature being so averse to moisture, that they are obliged to plant it only in the summer months, where it is most exposed to the sun. For this purpose it is, that the inhabitants cut down the woods on the hills and in the plains, which they burn, and so prepare the ground for the production of this root; these fields are by the Brazilians called Ko, by the Portuguese, Roza or Chokas, and by our people, Rossen. These fields are turned up into small round hills like mole-hills; the Portuguese call them Montes de Terra Cavada, or Hollowed Hills, the Brazilians, Kujo. These hills they make about two foot and a half asunder, each being about three foot in circumference, and half a foot high, that the rain may be carried off with the more ease. In each of these hills they commonly plant three small taks of this shrub, of about nine or ten inches or a foot long, without leaves; notwithstanding which, they grow and soon bear fresh leaves, and in time produce new roots, which cannot be transplanted, because no sooner are they taken out of the ground, but they begin to putrefy and stink. After these taks have been about ten days in the ground, they begin to bud and produce as many fresh taks as they have knots; each of these taks is about a finger long, from whence sprout forth many lesser ones of a purple colour. The fields must be three or four times a year cleared of the weeds, which grow in great plenty amongst it, and choak it up before it comes to its full growth. The small taks and leaves of these shrubs are mightily infested by the pismires, and likewise coveted by the wild-goats, oxen, horses, and sheep, for which reason they are very careful to fence these plantations with stalks and branches of trees. The bees, conies, and some other Brazilian creatures, are mighty fond of the root, which takes no harm, though the shrub be stripped of all the leaves, provided the

root itself be not touched. This root does not come to its full perfection till a year after planting of the taks, though, in case of necessity, they may be drawn in six months, but afford but little farinha. Each shrub produces two, three, four, nay sometimes twenty, roots, according to the goodness of the ground, and after they are come to full maturity, will keep two or three years under-ground; but it is much more safe to take them up at the year's end, for else many of them will rot; nay if the season happens to prove very wet, they must of necessity be drawn, though they are but half ripe. The root, after it is taken out of the ground, will not keep above three days, but stinks, take what care you can; for which reason they seldom draw more at a time than they can make immediately into farinha or meal. That kind of mandioka, commonly called Mandibuka, grows faster and ripens sooner than any other, and affords the best farinha; it thrives best in sandy and hot grounds. But that kind which is most generally used is called Mandik-parata, and grows indifferently in all grounds. The farinha is prepared thus: the root after it is taken out of the ground is purged from its outward rind by a knife, and washed in fair water; then the end of the root is held close to a wheel of about four or five foot diameter, which being covered round the edges with a copper or tin plate full of sharp small holes, not unlike a nutmeg-grater, and the wheel being turned round continually, grates the said root into small particles, which fall into a trough underneath. The wheel is by the Brazilians called Ibecem Babaca, and by the Portuguese, Roda de farinha, or the flour-wheel; the trough the Brazilians call Mukaba, and the Portuguese, Koche de rater Mandihoka. But the poorer sort are fain to be contented with a hand-grater, called Tapiti. The root thus grated is put into a bag, made of the rinds of trees, about four inches wide, called by the Portuguese, Espremondouro de Mandihoka. This bag with the root is put into a press, and all the juice pressed out, (it having a venomous quality) which is by the Brazilians called Manipuera, or Muni-puera, and by the Portuguese, Agoa de Mandihoka, i. e. the water of Mandihoka. The next thing to be done is to beat the root through a sieve, called by the Brazilians, Urupema; and then to lay it upon a copper-plate, or earthen pan, over the fire, and to stir it continually with a wooden spoon or spatle till it be quite dry. This pan or vessel the Brazilians call Vimovipaba, and the slice Vipucuitaba. The farinha, before it be quite dry, is called by the Brazilians, Vitinga, and by the Portuguese, Farinha Relada; but when it is completely dried and fit for keeping, the Brazilians call it Viata or Viccia, and the Portuguese, Farinha Seca, or dry meal; or Farinha de Guerra, war-meal, because it is most used in time of war. For the more it is dried the better it keeps, but never keeps good above a year, the least moisture being apt to taint it; which is the reason, that both the Portuguese and we, in imitation of the Brazilians, make biscuits of it upon a grate iron, with hot coals underneath, for the magazines.

The juice Manipuera, which is pressed out of the root mandioka, put into a vessel, gets in two hours time a white settlement at the bottom, called by the Brazilians, Tipioja, Tipiaka, and Tipiabika; this dried, affords a very white meal, called Tipiocui, which, baked into cakes as before, called by them Tipiacika, taste as well as wheaten bread. This juice is also boiled to pap, and eaten, and serves likewise instead of starch or paste. The Portuguese take this pap, mix it with sugar, rice, and orange-flower-water, which they make into a conserve of a delicious taste; they call it Marmelada de Mandihoka. The juice Mandiga or Manipuera is of a sweetish taste, which is the reason the beasts covet it, but commonly die soon after they have drank of it, it being pernicious, nay mortal, both to man and beast. If the juice be kept twice twenty-four hours, it produces worms, called by the Brazilians Tapucu; yet it has been found by experience, that this juice loses its pernicious quality after it has

stood twenty-four hours, there being many of the Brazilians who boil and drink it without any harm. The root mandioka, is likewise immediately after it is taken out of the ground, sliced in pieces, and laid in fresh water for four or five days; when it begins to be soft it is called Puba, or Mandiopuba, and Mandiopubo. This the wild Brazilians inhabiting the deserts and woods, roast in the ashes and eat; because it is done without much trouble. The same mandiopuba, toasted before the fire, is called Kaarina, which being afterwards beat to powder with a wooden pestle in a mortar, they call Kaarimaciú; of this they make a pap with boiling water, which, seasoned with some Brazilian pepper, or Nhambi flowers, affords a very good dish, especially with the addition of some fish or meat, when it is called Minguipitinga by the Brazilians, who look upon it as one of their best dainties. It is also very wholesome, for this Kaarina, and the flower Tipiaka, boiled in orange-flower-water and sugar, to the consistency of a syrup, affords a very good antidote. They make also a kind of starch of the flower called Kaarina, which they called Mingaupomonga; as likewise very fine cakes, by mixing it with water, butter and sugar. There is a kind of meal prepared from the dregs of the mandioka or mandiopuba root, thus steeped in water, called by the Brazilians, Vipuba, and Viabiruru, and by the Portuguese, Farinha Fresca, or fresh flour, and Farinha d'Agoa, or water-flour. It is very well tasted, but will not keep above twenty-four hours. But if you make it up with water into balls and rolls, and let them dry in the sun, they will keep good for a considerable time; these they call Viapua and Miapeteka. The Tapoyers, and almost all the other Brazilians, prepare it thus, and afterwards mix it with another meal called Viata, which affords it a more agreeable taste.

The mandioka root is likewise prepared thus; after it has been cleansed, and cut in thin slices, they beat it with a wooden pestle, and squeeze the juice out with their hands only, which being dried, they call Tina and Mixakuruba; another way of preparing the mandioka root is, to cut it into pieces of about two fingers long, and two inches thick, which, without being squeezed, is exposed to the sun, and afterwards beat to powder in a wooden mortar, called by the Brazilians, Tipirati, by the Portuguese, Farinha de Mandioka Crua, or the flour of raw mandioka; the pieces before they are beaten to powder are very white, and may be used instead of chalk. Out of this flour they make very good white bread and biscuits, called Maipeta, the last of which are chiefly used in the camp, because they will keep a great while.

Out of the root Aipimakaxera, the Brazilians boil a certain pleasant liquor not unlike our whey, called by them Kavimakaxera. The same root, chewed and mixed with water, furnishes them with another liquor they call Kaon Karaxu. The cakes made from the flour of this root, laid in a cask with water, till it ferments together, affords them likewise a sort of strong and very good beer.

All these different kinds of mandioka roots, if they be eaten fresh, prove mortal to mankind, except that called Aipimakaxera, which roasted, may be eaten without danger, and is of a good taste. But all sorts of beasts, both wild and tame ones, do not only feed upon the said roots and leaves, without the least hurt, but also grow fat with them, notwithstanding that the juice of both is mortiferous as well to men as beasts. The negroes and Brazilians bruise the leaves of the mandiiba in a wooden mortar, which being spoiled, they put oil or butter over it, and eat it as we do our spinach; this is sometimes done by the Portuguese likewise, and the Dutch, who make a kind of salad of the same leaves. The Brazilians prefer the bread made of the mandioka root before ours, but it is not so natural to the Europeans, it being, if used in a great quantity, pernicious to the nerves and stomach, and corrupts the blood.

About three bushels of this meal (at the rate of two gilders per bushel) will suffice a strong labouring man for a whole month, and a piece of ground planted with this root, produces four times the quantity, as if it had been sown with wheat. There is a certain kind of mandioka root called Pitinga by the Brazilians, the flour of which cleanses and heals old ulcers. This root is likewise found in the isle of St. Thomas, and in those of Hispaniola, Cuba, and others thereabouts, and in most parts of the continent of America; the inhabitants of which call it Yuka and Kaffave, and those of Mexico, Quauhkamoth, and the bread which is made of the flour, Kazabis, Kazabi, or Kakavi. The mandioka root is originally the natural product of Brazil, and from thence transplanted into other parts of America and Africk. Its flour furnishes all the inhabitants of Brazil, as well the Portuguese and Dutch, as the natives and negroes, with bread, which next to wheat is the best of all, so that our soldiers would rather chuse to have their allowance in farinha, than wheaten bread out of the magazines. Since the war in 1645, the price of the farinha was risen to three or four gilders per bushel, which, as it tended to the utter destruction of the sugar-mills, so by special orders from the great council of the Dutch Brazil, all the inhabitants of the open country were enjoined, under a severe penalty, to plant a certain quantity of mandioka yearly, in proportion to their abilities, by which means the price of the farinha was so considerably abated, that three bushels were sold for two shillings ready money, at the Recife, and for less in the country.

Brazil produces a certain herb called Kaaeo by the Brazilians, by the Europeans in Latin, *herba viva*, because it seems to shrink when you touch it, and so it does likewise about sun-set; its seed has been transmitted into Europe, where it grows to its full perfection.

The Kalabasses are a kind of pompions, their rind, if dried, being so thick and strong, as to serve for materials for cups, porringers, and such like utensils. But what is most surprising, is, that they always grow of a different shape, some being long, others round, others oval, some thick before, others at the end. They blossom and bear fruit once a month, the blossom being yellow mixed with green; the pulp is white at first, but turns to a violet colour; they are of a tolerable pleasant taste, but very unwholesome, by reason they are too astringent.

The tree called Imakaru by the Brazilians, is of a middle size, its trunk round and its bark grey, covered with small thistles of the same colour. Its branches sprout forth on the top, with broad leaves of an oval figure, edged likewise with small thistles of thorns. There is also another kind of Imakaru, much larger than the former, called Kakabu by the Brazilians, and Kardon by the Portuguese. This sprouts forth first of all in the form of a large octangular leaf, upon which grows crosswise many thorns; this produces other leaves of the same kind, each being three, nay sometimes six foot long, and of the thickness of a man's arm. By degrees the first leaf turns into a woody substance, of a greenish colour, but somewhat spongy; those leaves that grow next to this stem are instead of branches, which produce other leaves. The stem bears only one large white flower, the fruit of which is of an oval figure, and of about twice the bigness of a hen's egg, of a dark brown colour, and fit for use. This tree grows to a great height. There is also another kind of Imakaru, being altogether the same with the former in respect of its largeness, blossom and fruit, except that its leaves are of a triangular figure.

What the Brazilians call Pako Kaatinga, the Portuguese commonly call Canodo Mato, or wild reed or canes. The stem or stalk is like that of other canes, about an inch thick, containing a white marrow or pith, of a sweetish taste, on which grow leaves

leaves of eight or nine inches long, and three inches broad, shaped like a tongue, smooth and pale, green on one and covered with a white woolly substance on the other side. The fruit of which is not unlike a pine-apple, about ten inches long, growing on the top of the stem; it is divided into several partitions, which, opening by degrees, a pale grey flower appears betwixt each, containing underneath twenty or more grains of a black shining seed. The stalk chewed draws the rheum from the head, and breaks the stone in the bladder. It is looked upon as an excellent remedy against the involuntary emission of the seed throughout Brazil, and cures it in eight days time.

All over Brazil, but especially in the isle of Itamarika, grows a certain tree called Kasjui or Kasjou, bearing a fruit of the same name. Its leaves are dark-green, broad and round, interspersed with many small veins. It bears two different blossoms and fruits. The white blossom which appears in the lower branches produce a juicy spungy fruit like an apple, of a very cooling and astringent quality; but the red blossom on the top a kind of chestnut. The Brazilians draw no small advantage from this tree; out of the apples they make a very good cyder called by them Kasjouwy, which is fourish, but if mixed with sugar, makes it as pleasant as Rhenish wine, and has this excellency, that though it soon seizes the head, yet it passes off without any harm. The other fruit they eat like as we do our chestnuts.

Among the products of the West and East-Indies is a tree called Papay by the Javaneze and Dutch, and Pinoguacu or Mamoeira by the Americans; and sometimes entitled with the name of the melon-tree by our people, by reason of the resemblance of its fruit to our melons. This tree is of two different kinds, to wit, the male and female. It grows and perishes again in a short time, its trunk being so spungy that it may be cut as easy as a cabbage-stalk; the leaves it bears are very large and broad, not unlike our vine-leaves, growing on long stalks round the top of the tree, and covering the fruit, which hangs in a knot, and is green at the first, but turns yellow at last, resembling in shape a pear, but of the bigness of our small melons, unto which its pulp resembles both in colour and taste, when come to maturity, but whilst they are green, they are boiled with meat, and give it a tart taste.

The red-pepper, known by the name of Brazil-pepper, and called Chili Lada by the Brazilians, grows on knotty stalks of about five or six foot high; the rind being a dark-green, distinguished with white rings, from whence shoot forth small crooked branches of a hand's-breadth in length, bearing a small white flower, which produces a green husk, and turns red by degrees as it ripens, with a certain seed within it, being as hot and biting upon the tongue as the common brown-pepper, and so does the husk. In the East Indies they preserve it, and call it Aetzar, and use it raw in their fish-sauces. In Brazil, they cut two or three of these husks, whilst they are green, in slices, and mix them with oil and vinegar, or some lemon-juice, to acuate their appetite, but it is too hot for those that are not used to it, which is allayed by a good quantity of salt. This kind of pepper grows likewise in the East-Indies, in the island of Java, in Bengal, and several other places. I have seen it also in some of our gardens in Holland. There is another shrub which grows frequently in the East Indies, not unlike this in shape and bigness, which bears a yellow flower; it is called Halika Kabus by the Arabians or Alkekengi, and sufficiently known in these parts. The flower produces a small bladder which contains the fruit and seed; they are not so big as ours. The Indians and Chinese mix it with a certain fruit called by them Poma d'Oro, Tamatas by the Portuguese, and Melanfana by the Italians; they also eat it with Chili Lada, or Brazilian pepper. The Portuguese cut the Poma d'Oro and the husk of the Brazilian pepper in thin slices, which being mixed with oil and vinegar, they eat as salad, and look upon

upon it as a proper remedy to cut the rough phlegm of the stomach, a distemper very common in those parts. The Brazilians, as well as the Dutch, chew this pepper for the same purpose, but it is very burning upon the tongue.

The sugar-canes or reeds, called by the Brazilians *Viba*, are the product both of the West and East Indies, but grow in great plenty throughout all Brazil, but especially in the captainship of Pernambuco. They are of two different kinds, one bearing small, the other larger leaves. The last, which is accounted the best, sprouts up into a long stem of the thickness of a child's arm, the leaves growing all on the top in a cluster, being of an oval figure, and a dark-blue colour. The rind is distinguished by certain joints or knots; the other kind bears small leaves from the top to the bottom. The sugar-canes are propagated from their small sprouts, which being put in the ground like our vines, grow up to the height of twelve foot, if they are planted in good soil, and are kept free from weeds. Six months after they have been planted, a brown seed appears on the top; then it is fit to be cut; for if they stand longer in the ground their juice diminishes, dries up, and turns sour. The juice, if taken immediately after it is drawn, causes a looseness. The low grounds are much more convenient for the planting of sugar-reeds than the hills, especially near the river side, where the banks are overflowed by the stream. There are a certain kind of winged worms, called *Guirapea-koka* by the Brazilians, and *Pao de Galinha* by the Portuguese, which are great enemies to the sugar-canes, especially in moist grounds, where they gnaw and consume the roots. The sugar, which is the product of these canes, is not procured without a great deal of toil and labour, in which, for the most part, are employed slaves, under the tuition of certain overseers appointed by the masters of the sugar-mills, who were for the most part Portuguese, the Dutch being hitherto not arrived to the utmost perfection in that art. In the captainship of Pernambuco, many fine Ingenhos or sugar-mills, with their adjacent plantations, were erected for this purpose, amounting, in all, to above one hundred in number, and the labourers, negroes, and other African slaves thereunto belonging, to near forty thousand. The whole yearly product of sugar of the Dutch Brazil is computed to be betwixt two hundred and two hundred and fifty thousand chests.

In the year 1642, one Gillin Venant brought some indigo-seed from the American islands into Brazil, who having certain lands assigned him near the small river Mercera, and being provided with all other conveniences by the special command of the great council, erected several plantations for the producing of Aniel or indigo: but it being found by experience, that the pismires consumed most of the leaves, the said Mr. Venant, by employing many labourers and negroes, to destroy these pismires with burning and digging, at last so well cleared the ground, that the indigo came to its full perfection, several patterns of which were sent into Holland. Mr. Venant having made an agreement with Mr. Christopher Eyershettel to instruct him in the most necessary points relating to the coagulating the indigo, he was treating with the great council concerning certain grounds for the planting of indigo, so that there was a fair prospect of bringing this design to a considerable perfection here, if the same had not been prevented by the intestine war.

The wild aniel, which grows in Brazil in great plenty, has a great resemblance to the true indigo in outward appearance, but affords no good colours. Some pretend to have seen also a kind of wild cochineal in Brazil, and the ground would produce good store of cotton, but that the inhabitants draw much more profit from the sugar-plantations.

Some ginger is likewise planted in Brazil, but not in such quantities as to be transported into other parts, no more than the Mechoaconna, China, and some other medicinal roots; and the Herba de Cubra or Herba de Nossa Senhora, which is looked upon as an infallible remedy against the gravel; and the root called Paquoquanha, which is the universal medicine of the Brazilians. There are also many transplanted hither from other parts, as ginger, tobacco, rice, cotton, Turkey wheat, aniel, or indigo, and the sugar-reeds were first of all transported by the Portuguese from the Canary Islands. The fruits in daily use among the inhabitants, are Ananas, Bananas, Mangaba, Akaju, Arakou great and small, Guajaba, divers kinds of Murukuja, Ibapiranga, Mazaxanduba, Akaja, Aratiku, Guitakori, Biringela, Mamaon, Cocoa-nuts, and several sorts of Indian figs. The roots chiefly in use, are the Batatas, Nhambi and Umbi, and the Indian acorns, called Tembi, which are of a delicious taste.

The whole country of Brazil is extremely fertile and pleasant, being watered by many rivers and standing waters, most of which arise from the hills, and pass through spacious plains, the last of which are clayey and marshy grounds (called Vergeas by the Portuguese), which produce all sorts of fruit, but especially sugar-canes, in great plenty. Their meadows and pasture-grounds do not appear so pleasant in the summer as in the rainy season, when they are very green; wheat and rye grow soon rank here, which is occasioned partly by the nature of the soil, and partly by the heat of the sun; to prevent which, they never let their grounds lie fallow, and manure them with sand instead of dung. The same must be observed with all other foreign seeds here, that require to be kept a considerable time under-ground. In February and March (which is the rainy and winter-season of this climate), they sow their seeds, and that towards evening, not by day-time, or about midnight. They take great care not to plant any thing too deep under-ground; for whatever is planted beyond the sun-beams seldom produces any fruit, which our people have learned to their cost. There is a remarkable difference betwixt the seeds and fruits which are produced on the hills, and those of the marshy grounds, as to their time of ripening; though the cocoa and palm-trees are transplanted here without the least regard to their age, bigness, or the season, and grow very well. Most of their own trees and shrubs bear flowers and fruit throughout the whole year, so that, at one and the same time, you enjoy the benefit of the spring, summer, and winter; the like is observable in the vines, citron, lemon, and other trees, brought by the Portuguese from Angola into Brazil, and in several roots, pot-herbs, and other fruits, transplanted thither by the Dutch. Those who covet ripe grapes throughout the whole year, do only prune their vines at divers times, which produce a fine grape, and a wine as sweet as molasses. The worst is, that they are much infested by the pismires, which suck all the juice, and leave nothing but the hulks to the owners; several other sorts of trees have been transplanted thither from Holland, which thrive extremely, and bear very good fruit.

The standing waters of Brazil are, for the most part, covered on the surface with green shrubs and herbs, that they appear rather like land than water, and feed both land and water-fowl. At the entrance of most of their rivers (where you meet with vast quantities of oysters and crabs), the country is so overstocked with a certain kind of a tree called Guaparaba, or Mangle, by the Brazilians, that they render it impassable for travellers. In short, the whole Brazil is well stored with trees, shrubs, and useful woods, there being scarce a place, either in the valleys or rising grounds, which are clayey, or among the hills, which do not produce something that is useful; and that in such plenty, that the Portuguese, after their first arrival here, were forced to cut their way through these trees with

with incredible pains and charge. The hills furnish also great store of wood, which is of a very good scent, and is used by dyers; as for instance the Brazil wood, which is from hence transported into Europe.

The stem or trunk of this tree is knotty, of a very agreeable scent, and sometimes two or three fathoms thick: its leaves are dark-green, and small, thorny at the end, and grow on small stalks; the bark, which is about three inches thick, is generally taken from the trunk, before it is fitted for sale: it sprouts from its own root, and produces neither blossom nor fruit. Most of these trees grow about ten or twelve leagues from the sea-side, where they cut them down, take off the bark, and carry them upon waggons to the sea-shore, from whence they are transported into Europe for the use of the dyers chiefly; the Brazilians call this tree for its excellency's sake, Ibirapitanga. After the Dutch had conquered part of Brazil, they found great store of this wood ready cut and fitted for use by the Portuguese, who sold it to the Dutch company; since which time it was cut down promiscuously by the Portuguese as well as the Dutch, and such vast quantities of it were transported in 1646 and 1647, that the members of the great council of the Dutch Brazil, Mr. Henry Hamel, Bullestraet and Kodde, being made sensible of the destructive methods that were made use of in cutting this wood, which must in time have tended to the utter extirpation of these trees, did by their proclamation regulate these abuses. They have another kind of very fine wood in Brazil, called by the Portuguese, Pao Santo, as likewise those called Gitayba, Vio Wood, Massaranduba, cedar, and divers other woods fit for cabinet-work. The tree called Tataiba by the Portuguese, the wood of which the Portuguese call Pao Amaretto, affords a yellow colour for the dyers. The bark of the tree Araiba is of an ash colour, but boiled in water gives a red tincture. The tree Jakauranda, or Jaturiba, or the white-cedar, as well as several other trees, furnish the inhabitants with materials for building, being very hard and durable. The Brazilians make also matches and a kind of hemp out of the bark of some trees.

The most barren places of Brazil do produce a certain kind of trees without leaves, which they call Timbo or Tibo; out of these they make hoops, by reason of their flexibility, and the bark serves the ship-carpenters instead of hemp.

The Brazilians light their fires by striking two pieces of wood, of the trees Karaguata Guacu and Imbaiba, together, as we do with our flint-stones and iron. The first is a tree of an admirable nature: its stem grows fourteen or fifteen foot high, which being come to its full perfection, bears yellow flowers on the top, and abundance of large, long and thick leaves. Out of the stem they make sticks to hang their mattraffes on, the leaves afford the fishermen stuff for yarn to make nets of; and out of the leaves issues a certain unctuous liquor, which serves instead of soap. The trees and woods of Brazil are never seen to be covered all over with leaves at a time; but whilst some cast their leaves, you see others bring forth new ones; nay, sometimes one tree is half covered with leaves, and bare on the other side. Brazil likewise abounds in shrubs and reeds, some of which creep along the grounds, whilst others twist themselves up to the top of the highest trees, which affords a very agreeable spectacle at a distance, and a pleasing shadow to men and beasts, tired with the heat, hunting, or any other exercise.

Among other fruits, Brazil produces very fine oranges of divers kinds; the other vegetables, which, besides the mandioka root, serve for the sustenance of the inhabitants, are rice, millet, Patatas, Ananas, Bananas, melons, pompions, water-melons, cucumbers, beans, figs, Bakovas, Marakaja, Mangavas, Arataku, Ape, cabbages, radish, lettuce, purslane, parsley, chervel, carrots, &c.

Nothing is so much in request among the Brazilians, as the Akaju, a kind of wild apple, which furnishes them both with food and drink, being very juicy; so that this tree seems by kind nature to have been planted here for the peculiar comfort of the inhabitants: it spreads its branches round about in a great compass, but does not grow to that height as many other trees in this country: its wood, which is very solid, is very fit for the building of ships, from whence issues a very clear gum in the summer-season. Its leaves, which are red, resemble those of our walnut-trees, especially when they first sprout forth in the spring, but are of a much finer scent, which they never lose but by being distilled. The blossom is a flower consisting of five small leaves, which grow to the number of about a hundred in one cluster; each of these flowers has a stalk, with a small head in the middle. At their first coming out, which is in September, they are very white, but turn soon after to a rose colour; they are very odoriferous, and fill all the circumjacent grounds with their agreeable smell. This tree bears a double fruit, viz. an apple, and a chestnut: the apple is of an oval figure, very juicy; its pulp spongy, full of kernels, and of a tartish taste. The juice taints linen with a certain colour, such as we call iron-molds, which is never to be taken out, but returns as often as these trees stand in blossoms; it is of a whitish colour after it is pressed out, and tartish, but changes both its colour and taste by fermentation, and becomes very strong. The rind of the apple, which is very thin, is white mixed with red. The chestnut, which grows on the top of the apple in the shape of a lamb's kidney, is covered with a thin skin, over which grows a thick ash-coloured shell, full of a hot, sharp and burning oil, which bites the tongue; to correct which, they roast the chestnut in the ashes, break the shell with a hammer, and eat the pith or kernel, which tastes better than a common chestnut, and will keep good for several years. The Brazilians are so fond of this fruit, that they often fight for it; then they encamp among these trees, and remove not till they have consumed all thereabouts, unless they are forced thereunto by the enemy. They number the years of their ages by this tree, because it bears fruit but once a year, which ripens towards the latter end of December or in January, there being none to be found on the trees after February in Pernambuko. About the time the sun returns back from the tropick of Capricorn, it commonly rains in Brazil, which the inhabitants call the rains of Akaju, for, if the same happens to be moderate, they promise themselves great plenty of this fruit. The chestnuts are hot in the second degree; if eaten raw with wine and salt, they taste like walnuts, but if roasted or preserved with sugar, they are of a delicious taste. The oil which is taken out of the shell, is an excellent remedy against the hair-worm; it is hot in the third and fourth degree, and frequently applied to cancers and other malignant ulcers. The gum, powdered and taken in a convenient vehicle, opens the obstructions of the womb. The juice of the apple furnishes them with good cyder.

There are many sorts of palm-trees to be met with in Brazil, some of which grow wild, some are planted and cultivated by the inhabitants. Among the first the palm-tree called Pindava by the Brazilians, which grows very tall, claims the preference, of which there are whole woods to be seen in the open country. In the more remote and unfrequented places, grows a certain palm-tree called Karanatham and Anachekaira by the Brazilians, and by an Arabick word among the Portuguese, Tamar, or date, which this fruit resembles. The tree grows as high as a common date-tree, its wood is red and very solid, but of no great use. The bark is grey, which from the ground upwards to a certain part of the tree is distinguished by many scales, which are largest at

the bottom, and small by degrees, till about the middle of the tree they quite disappear; these scales being nothing else but the remnants of the branches, which fall off by degrees, as the tree grows higher; and continue only towards the top, spread round about the stem, like the African date-tree, but much finer. Each of these branches is about two or three foot long, flat on two sides, and covered with small thorns; they grow to a vast thickness. At the end of each branch grows one single leaf, which is very large and green, plaited like a fan, and about the middle divided into several other leaves, like those of the common date-tree; each of these last is about two foot long. Betwixt those branches, on which grow the leaves, spring forth other branches of four or five foot in length, and these again are full of other white sprouts, which flowers, with three pale yellow leaves; these produce a fruit of the bigness of an olive, which is green, bitter, and not eatable, but turn black when they ripen, which is in February. The Brazilians call this fruit Tirade, and eat it raw; but our people never took any fancy to it. With the leaves they cover their huts, and make baskets of them. The palm-tree called Pindava by the Brazilians, has instead of the bark a white and rough wooden substance, which contains a spongy sulphureous substance, out of which the Brazilians prepare a strong lee. This tree is for the rest but of small use, being rather esteemed for ornament's sake, by reason of its height and fine spreading branches, which however furnish the inhabitants with leaves to cover their huts, and to make baskets of; the Portuguese plant them near their walks and harbours, and round their churches. The leaves of this tree do not hang downwards like those of the cocoa-tree, but stand upright. Just by these leaves sprout certain branches, on which hang bunches of flowers, which produce the fruit, resembling in shape and bigness one of our largest hen-eggs, being sharp at the end, and fastened to the bunch on the other like the pine-apple. The outside is of a green yellow colour, inclining to a chestnut; being composed of a hairy substance like that of the cocoa-nuts, but not near so thick, scarce exceeding in thickness two egg-shells. Under this shell is an insipid saffron yellow pulp, which, however, is used by the negroes, who eat it with farinha. Within this pulp is a hard nut, of an oval figure, not unlike the cocoa-nut, of the same thickness, but without holes; it contains a pith or kernel, as white and big as a walnut, but is not near so sweet as the cocoa-nut; they are eaten both by the natives and strangers, who are furnished with them throughout the whole year, and called by the Brazilians; Inajamiri, i. e. the small cocoa-nut. The kernels of these nuts furnish them likewise with a white cooling oil, which is used instead of our oil of roses, and when fresh drawn mixed among their sallads, but when decayed, in their lamps. The shell affords an oil of the same nature, but not altogether so cooling. Out of the top of the tree flows a fine and odoriferous gum, used here instead of gum-arabic; they also pick a certain pith or marrow out of the top, which has a taste like our walnuts, and, when eaten with bread and salt, is accounted very nourishing.

There also grow cocoa-trees in Brazil, called by the natives Inajaguacuiba, and the fruit Inajaguacu. They are very different from the just-now-mentioned Pindava-tree, their trunk or stem being seldom straight, but commonly crooked, sometimes from seven to fourteen foot thick, and fifty foot high; it is without branches, having only fifteen or twenty leaves round the top, each of fifteen foot long. They have also good store of the common date-trees both male and female. The vast quantity of pismires wherewith Brazil abounds, are great enemies to all the products of their grounds, which they endeavour to destroy by fire and water; it is further to be observed, that some fruits as well as creatures, which are accounted venomous in Europe, are commonly eaten in Brazil; as, on the other hand, certain things are poisonous there, which are not in Europe. For they have a kind of frogs, and some fishes, which are extremely

poisonous; whereas a certain sort of great pismires and adders, toads, worms, and wild rats, are eaten by the natives, without any harm.

The most universal food of the Brazilians, is the flour made of the mandioka-root, called by them Vi, and Farinha de Mandioka by the Portuguese, as has been shewn more at large before. They feed also upon the flesh of several wild beasts and birds, crabs, craw-fishes, fruits, herbage; their meat, whether boiled or roasted, they eat half raw. They boil in earthen-pots, called Kamu, which they make themselves. Their flesh they roast thus; they dig a hole in the ground, the bottom of which they cover with leaves of trees, and upon them lay meat to be roasted, which being covered with the same leaves, they throw sand or earth upon them. Upon this they light a good fire, which they continue till they think it sufficiently roasted. If they hit it right, it eats very well, exceeding in goodness all other roasted meats; they call it Biaribi. Their fishes, whether roasted or boiled, they eat with Inquitaya, that is, salt and pepper. They boil their crabs or craw-fishes with salt, and eat them with inquitaya. Small fishes they wrap in leaves, and roast them in the ashes. They take the flour of the mandioka root with their three hindmost fingers of the right-hand, and so throw it into the mouth; in the same manner they do with beans, and such like things; they eat often, both by day and night, they having no set times for their meals, without the least noise, or any drink, which they reserve till after they have done. They seldom use any spoons, but instead of that their fingers, or some oyster-shell or other serves their turn. The flesh of several wild beasts is much in esteem among the Brazilians; as for instance, that of the great and lesser wild boars; they have a bunch like a camel on their backs, and are very good food, as well as the flesh of the river pigs, called Kapiverres by the Portuguese, which is of a very agreeable taste.

The most general and most wholesome liquor used among the Brazilians, is their river or fountain-water, which, by reason of its coolness, is a great refreshment to such as are tired by the heat, or the fatigues of other exercises; this is chiefly to be understood of their spring-water, which, though used here in great quantities, never causes any griping in the guts, or other inconveniences in the bowels, but, on the contrary, occasions a good appetite, and is soon evacuated by sweating.

The waters of the rivers Paray and Paratybi, are accounted a good remedy against the stone and gout, which is the reason that many arrive to the age of above one hundred years, who drink nothing but those waters, and are never troubled with any of those distempers; for those who are advanced in age are as nice in the different tastes of those waters as the Europeans in their wines; and they look upon those as indiscreet who use the waters without distinction. For, since most of their springs arise among the high eastern hills, they receive no addition either from the snows or any metallic bodies, and, being well digested and purged from their dregs by the heat of the sun-beams, they are very clear and wholesome; though it must be confessed, that in the winter-months, some waters, by reason of the rains, are not fine and cool as during the summer-season. The negroes make sometimes a nasty mixture of black-sugar and water only, without the least fermentation, which they call Garapa; this, as it is very cheap, so both men and women sit at it for twenty-four hours together, spending their time in drinking, singing, and dancing, but seldom quarrel, unless they have conceived some jealousy of one another. Sometimes they add to it some leaves of the Akaju-tree, which, by reason of their hot quality, make it the more heady. The Portuguese and Dutch frequently make a kind of forbette, of water, sugar, and lemons. Others pour water upon certain herbs; others put a lemon only in water. But besides these, the Brazilians know how to make wines, or cyder, out of several roots and fruits, which they

drink at their merry-meetings; especially of the Bakovas, Ananas, Mangaba, Janipaba, Karaguata, &c. For though the vines here bear grapes three times a year, nevertheless they are not sufficient to furnish them with wine. They make a kind of cyder, called by them Kooi, of the apple Akaju; these they stamp in a wooden mortar and squeeze the juice out with their hands, which after it is settled they strain; it appears at first like milk, but turns to a pale colour in a few days; its taste is tartish, and apt to seize the head if drank in any quantity; after some time it turns sour, and makes very good vinegar. The wine or liquor called by the Brazilians Aipy, is made two different ways: first, the slices of the root Aipimkakara, a kind of mandioka, are chewed by old women till they are as fluid as a pap, which they call Karaku; this they put in a pot, and boil it with a good quantity of water, stirring it continually till they think it fit for expression, which done, they call it Kaviaraku, and drink it luke-warm. Or else they take the same root purged and sliced in thin pieces, which they stamp and boil with water as before, which produces a whitish liquor, not unlike our butter-milk or whey; they drink it likewise warm, its taste being agreeable enough; they call it Kacimakaxera, though both kinds are generally comprehended under the name of Aipy. The liquor called Pakoby is made out of the fruit of the tree Pakobete. What the Portuguese call Vinho da Millo, is a liquor called Abaty by the Brazilians, and made of barley and Turkey wheat, called maize by the Indians; the liquor Nandi has also derived its name from that excellent fruit called Nana of Ananas, being the strongest of all their wines or cyders. There is another sort of liquor called Vinho da Batatas by the Portuguese, because it is made of the root Batatas: the natives call it Jetici. Thus the liquors called Beeutingui and Tipiaci, are both made out of the farinha of the mandioka root, viz. of the Beju and Tepioja.

The Brazilians are also great admirers of French or Rhenish brandy, called by them Kacitata, and swallow it very greedily as often as they can come at it. They are no less fond of tobacco, the herb of which they call Petima, and the leaves Petimaoba. After they have dried the leaves in the air, they lay them before the fire, to render them the more fit for cutting. They smoke in pipes made of the shell of the nut Pindoba, or of the Urukuruiba, Jocara, Aqua, or such like; to wit, they cut a hole in one end of the shell, take out the kernel, and, after they have polished them, put a wooden pipe or piece of reed in the hole. The Tapoyers use very large pipes made of stone, wood, or clay, the holes of which are so big, that they contain a handful of tobacco at a time. Sometimes the Brazilians make use of our European pipes, called by them Amrupetunbuaba, and Broken Katunbaba by the Portuguese, and Katgebouw by the Dutch. Whenever the Tapoyers, especially those inhabiting the villages, descended from the Tapoyers called Kariri, prepare the liquors Akavi and Aipy, it is done at the same time; then a day being appointed for a general merry-meeting, they meet early in the morning at the first house of the village they belong to, where they consume most of the liquor, and make themselves merry with dancing; this done, they go to the next house, where they play the same game, and so from house to house, till nothing be left or they can drink no longer. When they find themselves overcharged with liquor, they spew, and fall to drinking again; and thus, he who can spew and drink most, is accounted the bravest fellow of the company.

Of the coast of Brazil.

On the north-west coast of Brazil are several considerable salt-pits: that near the house called the Desert, is about three or four leagues distant from the river Aguarana, of which one branch extends to the east, and discharges its water in this salt-pit with a spring-tide, which is here commonly with the new moon. It is about five hundred and fifty paces from

from the sea-shore, and receives no other water but from the river Aguaraimã. There is no bay or harbour near it, but only a flat sandy bottom for about half a league distance from the shore, where you may anchor at three fathom deep. The land-wind which constantly blows on this coast, commonly ceases towards evening, so that the vessels take the opportunity of the night to load salt. This salt-pit produces every month a certain quantity of salt, provided they be careful to shut their sluices as soon as the same is filled with water, for else they are in danger of losing what they had got before, by the next high-tide. To the east of this salt-pit are the famous rocks called Baxos, which at low-water may be seen from thence; they extend about three leagues deep in the sea, but do not begin till about a league from the shore, betwixt which and the rocks there is a passage, where you have ten foot depth at low-water. It ebbs here with the lowest tide about eight foot, and a west-south-west wind raises the water to the highest.

About five or six leagues to the west of the house called the Desert, is the great salt-pit Karwaratama, which receiving its water from the sea, and being detained by sluices, produces very good salt in three weeks' time. Five leagues further to the west is the river Maritouva, the second in rank in those western parts, but has not above twelve foot water at high-tide. On its east point, not above half a league within the mouth, is a very convenient salt-pit: these salt-pits are computed to be manageable with the assistance only of ten or twelve negroes, ten christians, and about thirty Brazilians, and to afford two thousand tuns of salt per annum, which may be transported from thence into the other parts of the Dutch Brazil in small barks, during the summer season. About half way betwixt Rio Grande and Siara, as likewise in Siara, near the river Wapanien, are likewise several Salinas or salt-pits.

The chief traffic of Brazil consists in sugar, Brazil-wood, and such like; as also in tobacco, hides, preserves, ginger, and cotton, which grows wild here; some indigo was likewise planted there before my departure; but among these, the sugar and Brazil-wood are staple commodities. For since the tobacco began to be transported into Holland from the American islands, the planting of it was neglected in Brazil, where labourers' wages being excessive high, they could draw much more profit from the sugar, of which, according to computation, betwixt twenty and twenty-five thousand chests were yearly made only in the sugar-mills of the Dutch Brazil, if the harvest proves very good.

The inhabitants of Brazil may at present be divided into free-born subjects and slaves; and these again consist of divers nations, both natives and foreigners. The free inhabitants of Brazil were the Dutch, Portuguese, and Brazilians, the last, the natives of the country. But the Portuguese did not only surpass all the rest, at least ten to one in number, during my abode in Brazil, but also were in possession of all the sugar-mills and lands, except what was possessed by a very few Dutch, who had applied themselves to sugar-planting, but were for the most part ruined by the intestine war, being forced to leave all behind them in the country: besides those of the free inhabitants, who made it their business to manure the grounds, there were many merchants, factors, and handicrafts-men: the merchants sold their commodities generally with vast profit, and would have questionless been rich men, had they not vended their goods upon credit to the Portuguese, who were resolved never to pay them, as the event has sufficiently shewn. The handicrafts-men were able to get three, four, five, nay, six gilders a day, so that many returned very rich to Holland. Those that kept public-houses and chandler-shops were likewise great gainers here, and carried off abundance of ready money. The officers in the company's service whether civil or military, were likewise

likewise punctually paid, which made many who had lived in the country before the beginning of the civil war, and had served the company before, take service again, who were all entertained according to their respective qualities and former stations.

Among the free inhabitants of Brazil that were not in the company's service, the Jews were the most considerable in number, who had transplanted themselves thither from Holland. They had a vast traffic beyond all the rest; they purchased sugar-mills and built stately houses in the Receif. They were all traders, which would have been of great consequence to the Dutch Brazil, had they kept themselves within the due bounds of traffic.

The slaves of Dutch Brazil were either negroes or natives of the country; the last of which were either bought in Maranhon being prisoners of war, or from the Tapoyers, who likewise had made them captives, and otherwise, according to their custom, would have put them to death. For it being resolved immediately, at the first entrance of the Dutch in Brazil, that none of the natives should be made slaves (except they were either bought from the Tapoyers or brought from Maranhon) the Brazilians were settled in certain villages to enjoy their own liberty under certain limitations, and permission was given them to assist the Portuguese in the management of their mills and grounds, for certain wages appointed for that purpose; by which means many Allicas or villages were filled with Brazilians in Parayba and Rio Grande, who during the time of our government enjoyed the sweets of a perfect liberty.

Vast numbers of negroes of divers nations were entertained in the Receif, and the open country, for the manuring of the ground, and working in the sugar-mills of the Portuguese, which could not be done without them, by reason of the extremity of the heat of the climate, and the incredible toils they are fain to undergo; so that in my time near forty thousand negroes were employed in the sugar-mills betwixt Rio Grande and St. Francisco. Most of these negroes are brought hither from the kingdoms of Congo, Angola, and Guinea; a black shining skin, flat nose, thick lips, and short-curled hair, is their chief beauty. The lustiest and most laborious used in time of good trade to be sold in Brazil for seventy, eighty, or one hundred pieces of eight, nay, sometimes for one thousand four hundred or one thousand five hundred gilders, but these understood something more than ordinary: but when trade began to decay, they were sold for forty pieces of eight. There was scarce a Hollander of any substance but what had several of these slaves. They are most miserably and beastly treated by the Portuguese, though at the same time it must be confessed that it is absolutely necessary they should be kept under a strict discipline; for they are full of rogueries, superstitious to the highest degree, and forcerers: they would often pretend to tell us what ships were at sea from Holland for Brazil, though they were yet on the other side of the line, and how to recover stolen goods. I remember I happened once to be at a friend's house of mine, when I saw an old negro enter the kitchen, who came thither to cure a negro-slave of his illness, which he told us was occasioned by witchcraft. He made the patient rise from his chair, and taking a piece of wood from the fire-hearth, he ordered him to lick three times with his tongue that end which was burning-hot with the glowing coals. The same end of the wood he afterwards extinguished in a basin of water, and rubbed the coals in it, till it turned as black as ink. This he ordered the sick negro to drink off at a draught, which he did accordingly, and was immediately seized with a slight griping in the guts. This done he rubbed both his sides, and taking hold with his hand of a piece of flesh and fat above the hip, he made an incision there with a knife he pulled out of his pocket, of two inches deep, out of which he drew a bundle of hair and rags, with a little of the

the black water that was left he washed the wound, which soon after was healed, and the patient cured. They are very dexterous at swimming and diving, and will fetch a single piece of eight from the bottom of the sea, where it is very deep. They are also excellent fishermen, and get a great deal of money by it. They tie three or four great pieces of wood together, this they manage with one oar, and upon it go a good way into the sea, where they catch great quantities of fish with their hooks, and so return. It happened in my time, that a certain negro, who was very expert in fishing, was sold three times in a little while; this he took so much to heart, that the next time he went thus out a fishing, he tied a stone to his leg and drowned himself. Another negro having conceived a hatred against his master cut his throat, cut out his tongue, and made a house of office of his mouth, according to his own confession; he was broken alive upon the wheel, which he endured with an incredible obstinacy. A negro woman was brought to bed in my time of a child, the hair and skin of which were not black, but red. I saw also a young lad born from negro parents, whose skin was white, and his hair and eye-brows the like, but curled, with a flat nose like the other negroes. Sometimes I have seen old negroes with long grey beards and hair, which looks very fine.

The natives of Brazil consists of divers nations, distinguished by their proper names, to wit, the Tubinambos, Tobajaras, Petiguaras, and Tapuijas, or Tapuyers, or Tapoyers. The three first use one and the same language, and differ only in the dialect; but the last are subdivided into several nations, differing both in manners and tongue. The Brazilian men, which lived among us and the Portuguese, are middle-sized, strong and well-made, with broad shoulders. They have black eyes, a wide mouth, with black curled hair, and a flat nose; the last of which is not natural to them, but the parents, looking upon it as a great beauty, squeeze their children's noses flat, whilst they are very young. They paint their bodies, and some likewise their faces with divers colours; they have generally no hair about their mouth, though some have black beards. Their women are likewise of a middle stature, well limbed, and not ill-featured; they have likewise a black hair, but are not born black, but by the heat of the sun-beams acquire by degrees a yellow brown colour. The Brazilians come soon to maturity, and arrive to a great age, and that without distempers; they also seldom become grey, which is likewise observable in many European inhabitants here, who come to the age of one hundred or one hundred and twenty years. This must be chiefly attributed to the temperature of the climate, which is such, that in former times many Spaniards that laboured under some lingering distemper, whether in Spain or the East Indies, used to come to Brazil to partake of the benefit of that excellent air and water; it is true, most of the children of foreigners are troubled with lingering sicknesses, so that scarce one in three arrives to a state of manhood; but this must not be attributed to the air, but rather to the bad nourishment. Few cripples or crooked people are to be met with among the Brazilians, they being generally very straight and nimble, which is the more admirable, because they never do their children up in swathing cloaths, except their feet, looking upon it as unwholesome.

Before the Dutch got footing in Brazil, the Portuguese had made all the natives their slaves, and looked upon it as the greatest piece of policy quite to extirpate them, which they did so effectually, that whereas about one hundred years ago, the captainships of Rio Grande alone could raise one hundred thousand fighting men, scarce three hundred were to be met with in 1645 to 1646, which had created a mortal hatred in the Brazilians against the Portuguese; though it must also be confessed, that the late war and some epidemical distempers did sweep away many of the natives.

The

The remainders of them lived in certain Alders or vilages assigned them for that purpose, where they had their plantations; besides which they served the Portuguese in their sugar-mills for a certain monthly pay, which furnished them with clothes and other necessaries. Their huts are made only of wooden stalks, covered with palm-tree leaves. They cannot endure the yoke of slavery, nor any toil, especially the Tapoyers; they live very quietly among one another, unless they get drunk, when they sometimes sing and dance day and night. Drunkenness is a vice belonging to both sexes here, of which they are so fond, as to be past remedy, though this occasions often quarrels and other enormous vices among them. They are likewise much addicted to dancing, which they call Guau; they have several ways of dancing, one of which is called Urukapi; they commonly sing whilst they are dancing. The children divert themselves with divers sorts of games, one is called Kurupirara, another Guaibipaie, and a third Guaibiquaibibuku. They will sleep sometimes a whole day and night, and would not stir then if they did not want victuals. Near their hammocks they keep a fire day and night, in the day to dress their victuals, in the night to allay the rawness of the air, which here is colder than in most parts of Europe, because day and night is almost of an equal length here throughout the year.

The inland Brazilians of both sexes go quite naked, without the least covering. But those inhabiting nearer to the sea-shore, who converse with the Dutch and Portuguese, wear only a shirt of linen or calico; though, in my time, some of the chiefest among them began to take a pride to clothe themselves after the European manner. The wife constantly follows her husband wherever he goes, even in the war. He carries nothing but his arms, but the poor woman is loaden like a mule or sumpter-horse. For besides a great basket which is tied to her back (called by them Patigua), she has another upon her head, with all the household stuff in it, or a great basket with flour; besides which, several other smaller vessels hang on both sides, wherewith they take up water for their drinking. The child is carried in a piece of calico, which is fastened to her, and hangs down from her right shoulder. It lies there, with its legs wide open, one being stretched across the mother's belly, the other over her shoulder. After all this, she carries a parrot or ape in one hand, and leads a dog in a string with the other. Thus they proceed on their journey, without any farther provision, except a small quantity of farinha; the hedge or open fields serve instead of inns, which furnish them with necessary food, as the rivers and springs with drink; and so does the tree called Karageata, which contains always some rain-water within the hollowness of its leaves, to the great relief of travellers, who, in some barren places, do often not meet with a river or spring for twelve leagues together. Towards night they hang their hammocks on trees, or else fasten them to stalks neatly; they make a fire to dress their victuals; and against the rain defend themselves with palm-tree leaves. When they are at home, the husband goes commonly in the morning abroad with his bow and arrow, to shoot some wild beast, or catch birds, or else to the sea-side, or next river a fishing, whilst the women are employed in the plantations; some women go abroad with their husbands, and carry home the prey. The wild-beasts are caught by them in a different manner; some they kill with arrows, others they catch in pits dug for that purpose, and covered with the leaves of trees, under which is hidden some carrion, the scent of which draws them to the pit; this they call Petalu. They make also certain wooden traps, and use divers other ways of catching the wild beasts, each of which they distinguish by their proper names. To catch birds they use three sorts of snares or nets, called by them Jukana; the first sort catches the birds by the feet, this they call Jukanabiprara; the second entangles them by the neck, which they call

Jukanajuprara; the third ensnares their bodies, called by them Jukanapitereba. They kill the fishes with arrows, or catch them with fishing-hooks, their baits being commonly worms, crabs, or some small fishes. They bait the water where they intend to fish, with the leaves of Japikai, or with Timpotiana, Tinguy, or with Tinguiri; sometimes with the fruit called Kururuape, the root Magui, or the bark of the tree Anda, which make the fish swim on the surface of the water like dead, when they take them with a kind of a sieve, called by them Urupema, made of cane or reed, which they call Uruguiboandipia. Their sea-fish they catch with iron hooks, the bait being some carrion; they go a good way into the sea, only upon three pieces of wood fastened together, which they call Igapeda, and the Portuguese, Jangada; the wood is commonly of the tree Apiba.

The Brazilians are not burthened with much household stuff, their hammocks being their chiefest care in this kind; they call them Ini, are wrought of cotton like network, of about six or seven foot long, and four broad. When they are going to sleep, they fasten them either to two beams of their huts, or else in the open air to two trees, and some distance from the ground, for fear of some obnoxious creatures, and to avoid the pestiferous exhalations of the earth. The Tapoyers, called Kariri, have very large hammocks, of twelve or fourteen foot long, which contain four persons at a time. The Portuguese women make some very fine hammocks, wrought with divers figures in them. In lieu of dishes and cups they use the Kalabassek, cut in the middle, which are painted without with a certain red colour, called Uruku, and within with black. Their cans, cups, and mugs, are likewise Kalabasses of divers kinds, called Kuite, Jaroba, and Kribuka. One of the biggest of these kalabasses hold thirty or thirty-five quarts; this the Brazilians call Kuyaba, but when cut through the middle it is called Kuipeba. The poorer sort make certain knives they call Ituque, of stone, as also of cane, which they call Taquoaquia, but the better sort use Dutch knives. Their baskets they make of palm-tree leaves, they call them Patigua; they have also some made of reed or cane, these are with one general name called Karamemoa. They make also large broad baskets of reeds and branches twisted together: these they call Panaku, and are chiefly used for the carrying of the mandioka root. In their journeys they always make use of the patigua, but the panaku is used by the slaves and negroes in the Receif for the conveniency of carriage.

The arms of the Brazilians are only bows, arrows, and wooden clubs. Their bows, which they call Guirapara and Virapara, are made of very hard wood, called Guirapariba and Virapariba: the bow-strings are made of cotton twisted, and by them called Guirapakuma; the darts they call Uba, and are made of wild cane. The points of these darts are either of wood hardened, or of fish teeth called Jacru, or of bones or cane well sharpened; some have several points, others but one.

Being not in the least acquainted with arithmetic, they compute the number of their years and age by the chefnuts which grow on the fruit Akaju, which chefnuts they call Akaguakaya, as likewise Akajuti and Itamabara, of which they lay one by every year, this tree producing fruit but once each season, viz. in December and January. They begin the computation of their years with the rise of a certain star, called by them Taku, or the Rain-star, which is always there in May; they also call the year by the same name.

The most barbarous of the Brazilians inhabiting the inland countries scarce know any thing of religion, or an Almighty Being. They have some knowledge remaining of a general deluge, it being their opinion, that the whole race of mankind were extirpated by a general deluge, except one man and his own sister, who being with child

before, they by degrees re-peopled the world. They know not what God is, nay, they have no word expressing the same, unless it be Tuba, which signifies as much as something most excellent above the rest; thus they call the thunder Tubakununga, i. e. a noise made by the Supreme Excellency, for Akununga implies as much as a noise. They are unacquainted with heaven or hell, though they have a tradition among them, that the souls do not die with the bodies, but that they are either transplanted into devils or spirits, or else enjoy a great deal of pleasure with dancing and singing in some pleasant fields, which they say are behind the mountains. These fields are enjoyed by all the brave men and women, who have killed and eaten many of their enemies; but such as have been idle, and never did any thing of moment, are tortured by the devil, unto whom they give many names, viz. Anhangá, Jurupari, Kurupari, Taguaíba, Temoti, Taubimama. They have, however, some sort of priests among them, whose business is to sacrifice, and to foretel things to come; these are especially consulted when they are to undertake a war or journey; they call them Paye and Pey. They dread spirits to the highest degree; they call them Kuripira, Taguai, Macachara, Anhangá, Jurupari, and Marangigona, though under different significations: for kuripira implies as much as the god of the mind or heart; macachara, the god or patron of travellers; jurupari and anhangá signify the devil; marangigona implies as much as the manes or remainders of the soul after death, which are so much dreaded by the Brazilians, that some of them, upon an imaginary apparition of them, have been struck with sudden death. They do not perform any worship or ceremony to those spirits, except that some pretend to appease their wrath by certain presents they fasten to certain stakes fixed in the ground for that purpose. Some of the Brazilians acknowledge the thunder for the Supreme Being, others the Lesser Bear in the firmament, others some other stars. The Potiguaras, a nation among the Brazilians, are accounted such forcerers, that they bewitch their enemies even to death: they call this manner of witchcraft Anbamombikoab. The Brazilians that lived among the Portuguese and Dutch, did in some measure follow the Christian doctrine, but so coldly, that few, when they come to an advanced age, shew much zeal for it; because the fundamental articles of our faith are not easily imprinted in them, unless in their tender years, and when they are remote from their parents. However, several of the Dutch ministers, viz. Mr. Dorelaer, and after him Mr. Thomas Kemp, have had good success in converting many of the Brazilians in the Aldeas or villages where they preached, the last of these two being well versed in the Brazilian tongue. Neither were Dionysius Biscareta, an honest old Castilian, and Johannes Apricius, less remiss in performing their duty to instruct these infidels. There were likewise three Dutch school-masters among them, who taught their young people to read and to write, but these were forced to leave their aldeas or villages during the last intestine commotions raised by the Portuguese.

Many distempers which are common in Europe are unknown in Brazil: they use nothing but simple remedies, and laugh at our compositions. They are very dextrous in applying their remedies, especially their antidotes: they draw blood by suction with horn-cups, by scarification, or opening a vein; instead of a lancet they use the tooth of a lamprey, called by them Kakaon, without which nobody stirs abroad. So soon as any-one of their acquaintance is fallen ill, they all meet, each offering his remedy, which he has found good by his own experience: then they begin to cut and slice the most musculous parts of the body, either with the thorns of the tree Karnaíba, or with fishes teeth, till they have drawn as much blood as they think fit, and for that purpose suck the wounds with their mouths, by which means they pretend to draw all ill humours

humours from the affected part. Vomiting they procure by means of the leaves *kār-saiba*, which being twisted together, they force down the patient's throat. When all these pretended remedies prove ineffectual, they proceed to no others; but after some consultations, quite despairing of his recovery, knock him on the head with their clubs, looking upon it more glorious to be thus bravely delivered from their misery, than to expect death till their last gasp. They exercise as much barbarity upon the dead carcases of their friends as of their enemies; upon the first out of love, against the last out of revenge; for they tear them to pieces with their teeth, and eat the flesh like a dainty bit.

The Brazilian women are extremely fruitful, have very easy labours, and rarely miscarry: for no sooner is a woman delivered, but up she gets to the next river, and without any farther help washes herself there: in the meanwhile the husband keeps the bed for the first twenty-four hours, and is made as much of as if he had been lately brought to bed. The mothers lament the death of their infants with howling and crying for three or four days.

They receive their friends after a long journey with open arms and tears, and beating their foreheads against their breasts, in remembrance of the misfortunes they have undergone during their absence. Though the Brazilians were always supposed to be descended from the race of men-eaters, yet by their conversation with us and other nations, many of them have laid aside their barbarity, and are become as affable and civilized as most of the European nations.

The Tapoyers inhabit the inland country of Brazil to the west of these countries in the possession of the Portuguese and Dutch, betwixt Rio Grande and the river Siara, as far as Rio St. Francisco. They are divided into several nations, distinguished both by their language and names: for the Tapoyers bordering upon the utmost confines of Pernambuko, are called Kariri, under their king Cerioukejou; the next to them the Karirivasu, whose king was Karopoto; then the Kariryau, and so farther the Tararyou; the last of which were best known unto us; Janduy or John Duwy being their king; though some of them lived under the jurisdiction of one Karakara. Divers were governed by other kings, viz. Prityaba, Arigpaygn, Wahafewajug, Tfering, and Dremenge. Those under king John Duwy inhabit to the west beyond Rio Grande, but change their habitations pretty often: about November, December, and January, when the fruit Kajou begins to ripen, they come towards the sea-side, because little of it is to be met with in the inland countries. The Tapoyers are very tall and strong of body, exceeding both the Brazilians and Dutch both in strength and tallness by the head and shoulders. They are of a dark brown colour, black hair, which hangs all over their shoulders, they only shaving it on the forehead as far as to the ears. Some are shaved according to the European fashion; the rest of their bodies they keep without hair, even without eye-brows. Their kings and great men are distinguished from the vulgar by the hair of their heads and their nails; the first, their kings, were shaved in the shape of a crown, and have very long nails on their thumbs; but the king's relations or other officers of note, wear long nails on all their fingers, except their thumbs; for long nails is accounted a peculiar ornament among them. The Tapoyers are very strong; prince Maurice being one time in a humour to try their strength and skill in fighting with a wild bull, caused one to be brought within his ward court, which was surrounded with palisadoes, in order to engage two Tapoyers appointed for that purpose. There was a great concourse of people to see this spectacle, when on a sudden two Tapoyers (the rest with their wives being only spectators) came in stark naked, without any other arms but their bows and arrows. The bull saw them no sooner

enter, but he made towards them, who being extremely nimble, avoided the strokes he made at them with great dexterity, and in the meanwhile so galled his flanks with their arrows, that the beast roared most terribly, and being all in a foam, set upon them with all his vigour, which they avoided by retiring every foot behind a tree that stood in the middle of the court, and from thence continued to pierce his sides with their darts, till finding the beast begin to languish by the loss of blood, one of the Tapoyers got upon his back, and laying hold of his horns, threw him upon the ground, and being seconded by his comrade, they both killed the bull, roasted him underground with a fire above it, according to their custom, and feasted upon their meat, with the other Tapoyers there present.

The Tapoyers of both sexes, from the king to the common fellow, go quite naked, only that the men hide their privities, by tying the yard in a little bag or net made of the bark of trees; this they close up with a small ribbon called Takoaynhaa; upon occasion they untie it, and are more cautious in exposing their privities than some of the Europeans: in the same manner do the rest of the Brazilians inhabiting the inland countries. The women of the Tapoyers cover their privities only with a handful of herbs, or a small branch of a tree, with the leaves on them: this they thrust barely under a small cord or rope which is fastened round their middle like girdles: in the same manner they cover their backs, but so carelessly, that both before and behind, great part of both is exposed to view; they change it every day. The men wear also a kind of garland made of the feathers of the bird Guara or Kaninde, upon their heads, from which certain feathers of the tail of the bird Arara, or Kamud, hang down behind upon the back; some only tie a cotton string round their hands, in which some red or blue feathers are fastened behind; this they call Akanbuaçaba. They have also cloaks made of cotton thread, and woven like a net; in each of the holes they stick a red feather of the bird Guara, and intermix them with black, green, and yellow feathers of the birds Aakukara, Kazinde, and Arara, which lie as close together as fish scales: there is a kind of cap on the inside of this cloak, which with the rest covers the head, shoulders, and the body, somewhat below the middle, so that it is worn both for ornament and conveniency's sake, it being proof against the rain; they call these cloaks in their tongue Guara Abuku. They also fasten certain combs of birds with wild honey to their foreheads, these they call Aguana.

If their fathers or mothers die, they pull every hair out of their heads; they have holes in their ears so big, that you may thrust a finger into them; in this they wear either a bone of an ape called Nambipaya, or else a piece of wood, wrapt up in cotton thread. The men have holes in their under-lips, in which they wear either a crystal, smaragd, or jasper, of the bigness of a hazel-nut: this stone they call Metara, and if it be green or blue, Metarobi; but they are most fond of the green ones: they have also holes in their cheeks on each side of the mouth; in these the married men wear a piece of wood of the bigness and thickness of a good goose-quill: sometimes they wear a stone in it called Tembokoareta: in the holes of their nostrils, some have also such like sticks of wood, which they call Apiyata: their bodies are all over painted with a certain juice of brown colour, squeezed out of the apple Janipapa; this is even used among the women and children. Besides this, they stick feathers of divers colours with wild-honey or mastick to the skin of their bodies, which make them appear at a distance like large birds; this they call Akamongu. Thus they adorn their arms with garlands made of red and yellow feathers of several birds, called Aguamiranga; sometimes they mix corals among them, which they call Arakoaya. They

make also a kind of bracelets of the rind of the fruit Aguay; these they wear round their legs, and make a noise when they are dancing. Their shoes are made of the bark Kuragua, and call them Miapakabás. Some nations of the Tapoyers use no bows or arrows, but throw their darts with their hands, but the Kariri have bows. Their clubs are made of very hard wood, are broad on the top, and full of teeth or bones, well sharpened at the end. Round the handle they wind a piece of calico, or some other stuff, and at the end a bush of feathers of the tail of the bird Arara; such another bush is fastened round the middle; they call them Atirabebe and Jatirabebe. Their trumpets, which they Kanguenka, are made of men's bones; but those called Nhumbugaku, which are much larger, are of horn; they have also another sort made of cane, called Meumbrapara. The Tapoyers are not so good soldiers as the rest of the Brazilians, for upon any smart encounter they trust to their feet, and run away with incredible swiftness. They neither sow nor plant, not as much as the mandioka root, their common food being fruits, roots, herbs, and wild beasts, and sometimes wild honey, which they take out of the hollow trees. Among all other roots they are extremely fond of a certain kind of wild mandioka root, which rises up to the height of a small tree. Its stem and leaves resemble the other mandioka root, but it is not near so good; the inland Brazilians call it Cuguaçuremia, but those inhabiting near the sea-shore Cuaçumandiiba.

They eat also men's flesh; for if a woman happens to miscarry, they eat the child immediately, alledging that they cannot bestow a better grave upon it than the belly, from whence it came. The Tapoyers lead a kind of vagabond life, like some of the Arabians, though they always remain within their certain bounds, within the compass of which they change their habitations according to the different seasons of the year; they dwell for the most part among the woods, and live upon hunting, in which perhaps they excel all other nations; for they will shoot a bird flying with their arrows. So soon as a woman has conceived, she abstains from her husband; after she is brought to bed, she goes into the next wood, where she cuts the child's navel string, with a shell, boils it afterwards with the after-burthen, and eats them both. She washes herself and the child every morning and evening, neither does her husband keep her company, as long as she gives suck, unless he has but one wife. If a woman be discovered to have had an unlawful commerce with another man, her husband turns her away, but if they are caught in the act, he may kill them both. The mothers take extraordinary care that the nuptials of their daughters are not consummated until after they have had their monthly times, which they give notice of to their physicians, and these to the king, who then gives them licence to go to bed with the bridegroom, who pays his acknowledgement to her mother, for the care she has taken of her daughter. If a young maiden be marriageable, and yet not courted by any, the mother paints her with some red colour about the eyes, and thus carries her to the king, who orders her to sit down near him upon a carpet, and blows the smoke of tobacco in her face\*. For the rest of the Tapoyers, are the worst of all the other Brazilians, being ignorant of any thing that relates to God or religion; neither will they receive any instruction of that kind. They have certain priests or rather forcerers, who pretend to foretell things to come, and to raise spirits, which they say appear to them in the shape of a fly, or any such like insect: when these spirits disappear, the women make most horrible cries and lamentations, in which consists the main point of their devotion: they avoid night-journeys, for fear of serpents and other venomous creatures, neither will they set on a journey until the dew be dried up by the

\* A very indelicate passage is omitted.

sun-beams. Several nations of the Tapoyers, especially those under king John Duwy, lived always in a good correspondence with the Dutch, unto whom they afforded at divers times considerable assistance; though they did not submit to their jurisdiction, but were governed by their own kings. King John Duwy had sixty children by fifty wives, though sometimes he had not above fourteen wives at a time; these Tapoyers having a mortal hatred to the Portuguese, used to kill them wherever they could meet with them. And thus much may suffice concerning the manners, way of living, cloaths, &c. of the natives of Brazil; I will now proceed to give you an account of my voyage back into Holland.

Being sensible, as I told you before, that things grew worse and worse every day with us here, I with much ado got leave to depart, and accordingly the 23d of July 1649, I went aboard the ship called the Union, manned with eighty sailors, under the command of Captain Albert Jants, a native of Groningen. We set sail the same day in company of the Blue Eagle, and a yacht called the Brazilian. We left the city of Olin-da to the south-west in the evening; the 25th we were under  $3^{\circ} 6'$  with a north-north-east course; we sailed that day about twenty-eight leagues. The next day we passed the line, with very fair weather and wind; we continued our course without any remarkable accident until the first of August, when about noon we found ourselves under  $9^{\circ} 46'$ , having sailed twenty-nine leagues in the last twenty-four hours. The same evening we saw the first time the north pole star, after we had passed the line. The 2d of August we sailed twenty-three leagues with a fresh gale, and found ourselves under  $11^{\circ} 13'$ . We continued this our course with a fair wind, until the 16th of August, when we were becalmed; we did not advance above sixty leagues that day; being under  $26^{\circ}$  we found it exceeding hot. The 20th of August we had but a slender south-east wind; we found ourselves under  $29^{\circ} 45'$ ; we were so much troubled with heat, for want of the cool winds, that the knives in the cabin were so hot, that nobody could hold them in his bare hands, nor any one could touch the deck of the ship with his hands or feet. We continued our course thus until the 29th, when being under  $38^{\circ} 46'$ , we made about eight leagues that day. The 3d of September, being under the  $40^{\circ} 18'$ , we espied a sail, which we found to be a vessel bound for Virginia. Towards evening we were forced to stay some time for the Brazilian yacht, she having lost one of her masts. The next following day in the morning we discovered the island of Corfu, whither we directed our course.

Corfu and Floris are two of the nine islands the Dutch commonly call the Flemming Islands. The biggest is Tercera, being about sixteen leagues in compass. It is very rocky, but fruitful, producing a considerable quantity of oxen, and abounding in Canary and other birds. Here is a spring that turns wood into stone, and several hot-springs, in which you may boil an egg. The ground seems to be full of concavities, which is the reason of the many earthquakes here, which overturn and destroy houses, men and beasts. The island called the Peake has a rock which reaches to the very clouds, and which, as some suppose, may be paralleled for its height to the peake of the Canary Island itself. Betwixt the coast of Brazil and the said islands, the compass bears due south and north. We were gone eight degrees farther to the west, than we intended. About noon we found ourselves under  $40^{\circ} 34'$ . We continued our course without any remarkable accident, until the 16th of September, when we supposed ourselves to be not far from land, which we discovered the same evening to the north-north-east of us. The 17th we were becalmed, and caught more fish than we were able to eat. The 18th we discovered the Isle of Wight to the north of us, whereabouts one of our ships was separated from us; not long after we saw the point of Dover. The 19th we passed

by Dunkirk and Ostend with a brisk gale, and about noon safely arrived in the road of Flusingen. I got immediately ashore, and after having refreshed myself for five days, I went to Middleburgh, where I likewise continued five days. From thence I continued my journey over Dort, Rotterdam, Delft and Harlem, to the famous city of Amsterdam, from whence I undertook this West-India voyage 1640. From Amsterdam I went to Zwell, the birth-place of my father John Nieuhoff, and so to Benthem, my native country, where I met with my parents in good health, after so many fatigues of a tedious voyage; whilst I was at Benthem my father died 1651, the 15th of May, in the eighty-fifth year of his age, being lamented by all, by reason of his good qualifications.

Some troublesome people laid the loss of the Dutch Brazil at the door of the members of the great council, viz. Henry Hamel, Adrian Bullestraet and Peter Jande Bas, who left Brazil 1647. It was alledged that the before-mentioned contracts made with the Portuguese had given them great opportunity of a revolt; for which it was said the said members had received great sums of money; but it being evident that the succeeding members of the great council having taken cognisance of that affair before their departure, November 6, 1646, and in March 1647, they were fully cleared of these accusations, the same having been transacted by special orders of the council of Nineteen in Holland; besides, that the revolts which were about the same time in agitation in Angola, Africa, and the island of Ceylon in the East-Indies, where no such contracts were made, do sufficiently testify that the foundation of this intestine war was laid in Portugal, long before the contracts were set on foot. What is more surprising is, how the Portuguese, considering we were pretty well provided with forts and garrisons, durst think of such an attempt; but the reason is plain, for what they wanted in strength or otherwise, they were supplied with from the Bahia.

The motives that induced the Portuguese to this revolt, were, the recovery of their liberty, the difference of their language and manners from ours, but especially of religion, which our people had endeavoured to establish in Brazil; these, with some other concurring circumstances, such as our present weakness, and the disposition the states were in at that time, to be fairly rid of Brazil, gave them sufficient encouragement for this attempt. It has been the opinion of some, that the first sparks of this rebellion might soon have been quenched, by seizing some of the heads of the Portuguese faction; but it being apparent from the records, that nothing was left unattempted upon that account, though without any considerable success, the same cannot be imputed to the neglect of the government; the true reasons of the loss of Brazil were the slender garrison, and the inconsiderable number of Dutch inhabiting there; nothing being more obvious than that a conquered country must be maintained, either by a sufficient military force, or strong colonies; the last of which was the constant practice of the ancient Romans, who, besides this, backed them with good armies to keep the conquered nations in obedience. Another way of establishing themselves in a conquered country, though a very barbarous one, was introduced by the Spaniards and Portuguese in America, who, by destroying the ancient inhabitants, and planting colonies of their own, saved themselves the charge of keeping many forts and garrisons for their defence. Neither of these was sufficiently observed by the Dutch, after their conquest of the Dutch Brazil; for, according to their agreement made with the Portuguese, the last were left in the entire and quiet possession of all the sugar-mills, plantations, and grounds thereunto belonging, whereby the Dutch subjects were, in a manner, excluded from getting any considerable footing in the open country, especially, since such of the sugar-mills as happened to fall into the company's hands, by forfeiture or otherwise, were sold promiscuously to both nations, and commonly at such excessive rates, that the Dutch

Dutch durst seldom venture upon them; the taxes laid upon every thing below the sugar-mills, and upon the sugar itself, being so great, that little profit was reaped from thence, unless the sugar sold at a very dear rate; whereas, on the contrary, we ought, after the example of the Spaniards, to have endeavoured to draw our subjects into Brazil, by the granting of considerable immunities of honour and other advantages. The military force of the Dutch in Brazil, was likewise not duly regarded; for whereas according to a just estimate made in 1641, by Count Maurice, 7,076 men were absolutely requisite to maintain the Dutch garrisons there, the States of Holland, instead of following his directions, did, after the conclusion of the ten years' truce with Portugal, order the great council of the Dutch Brazil to reduce their forces there to eighteen companies of one hundred and fifty men each, and, though several remonstrances were made upon that head to the contrary, the truth of which was verified by the event; yet the succours sent from Holland arrived so slowly, that after my departure things grew worse and worse every day, and the Dutch had lost all their strong holds 1654. For the Portuguese began to blow up the Recife by sea, with sixteen ships, and to besiege it by land 1653, in December, with such success, that our people being constrained by hunger, and the garrison refusing to fight, were forced to surrender the place with all its circumjacent forts to the enemy; since which time the Portuguese have remained in the entire possession of Brazil; the same being confirmed to them by the peace made the 6th of August 1660, betwixt Portugal and the States of the United Provinces, in which, among others, these following points were agreed upon:—

That the Crown of Portugal shall be obliged to pay to the States the sum of eighty tons of gold, either in ready money or sugar, tobacco, or salt, or else assign the said money upon the Portuguese customs.

That the places taken on each side should remain to those who were then in possession of them.

And that a free trade should be allowed to the Dutch in Portugal, Africa, and Brazil, without paying any more customs than the native Portuguese.